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MODEL CAR Science

FEBRUARY, 1969

DESIGN A CUSTOM HO TRACK!

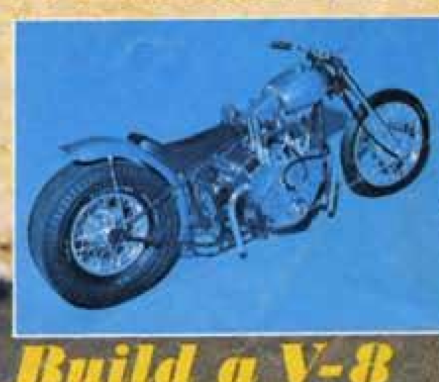
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February, 1969

MODEL CAR SCIENCE

Volume 7, Number 2

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By Raymond E. Hoy

The Editor's Chair

Have you noticed the quiet stirrings of a sleeping industry? I'm talking about the slot racing industry of course. Slowly, but surely, it's coming back to life. The sport has come full circle; it started with the small, individual, specialty item manufacturers, skyrocketed through the commercial track era with the attendant supertracks, super-manufacturers, and super-expensive bits and pieces, and finally came back to—you guessed it—the small, individual, specialty item manufacturers. Now the cycle is starting all over again, but this time around things will be different.

Why will things be different? Simple. The guys who call the shots in the slot racing manufacturing companies learned a lot from their fiery ride through the first cycle, and you can bet they won't get burned again by following the same route.

Slot racing has grown up. It's no longer a squalling, pampered child, oblivious to the needs of others, looking out only for itself as only a spoiled child can. The men who call the shots in slot racing now realize that no longer can they worry only about their own interests, but that they must see to it that their competitors remain healthy too. It takes more than one manufacturer to make an industry.

The "shakedown" of a year or two ago saw dozens of manufacturers drop by the wayside. The ones that are left are healthy because they make a quality product, and did so from their company's inception, while their "fast buck" competitors were making items that were lower in quality and higher in price. Those "get rich" manufacturers are no longer with us. The quality of slot racing merchandise has never been as good as it is right now.

Small companies are once again providing the vital bits and pieces for the serious slot racers around the country, and they're thriving. Even raceways—probably the hardest hit segment of the slot racing industry during the "shakedown"—are making a comeback. The shops that are left (only a fraction of the thousands that were once in operation) are doing a good business because of sharp management, clean, pleasant surroundings, a good race program, and a well-stocked inventory of quality parts. There are few absentee owners in the commercial raceway business these days. The disinterested, bored, slovenly, sarcastic raceway manager is almost a thing of the past, and good riddance. How many potential newcomers to the sport of slot racing were lost before they were even hooked by these "rent-a-managers" in the past? I've seen it happen, and I'm sure you have. I've watched an excited kid walk into a raceway with his dad, for the very first time, hoping to get his father interested enough in the sport to lay out the few dollars that he needed for equipment. You know what happened without me telling you, don't you? Right! The guy behind the counter didn't even bother to get off his chair to answer a few simple questions. His hostile, insolent manner alienated the kid's dad in the first few minutes, and that was all she wrote.

The average shopowner these days is a different breed, altogether. That's because usually he's the *owner* and he's got a lot to lose. Consequently, the shops that are in business now usually pick up a good percentage of new customers in the course of a year. New people are vital to any type of hobby or sport. Without them the sport withers and dies.

Slot racing is making a splendid comeback. This time the industry will grow steadily, but more slowly than during the skyrocket ride upward of five years ago. And that's good, because with what we've all learned from past mistakes we can take advantage of this hard-earned knowledge and settle down to the pleasant task of exposing thousands of new people to the most fascinating hobby/sports to ever come down the pike.

The patient almost died, but the operation was a success and there's a brand new life ahead. I, for one, can't wait to get on with it. Stick around, but don't just *watch* the fun—*get in on it!*

Model Mail



IN DEFENSE OF THE COMMERCIAL TRACKS

I'd like to reply to Richard Llosa's letter in the November issue. He complained about the high cost of track time at commercial raceways. There are various reasons for the increased costs. A commercial track costs the owner a lot of money to buy and install, even if he installs it himself. It must be maintained (track repairs, cleaning, etc.) and that costs money too. Track cleaning is the major problem becuase of tire "goop" used by drivers. Many shops outlaw "goop" but nobody pays any attention to this rule. *Repairs are necessary because of the foolish things the customers do.* If people would obey rules and treat the track and shop as they treat their furniture at home, the costs would come down. I'm all for supporting the neighborhood raceway, and for obeying the rules. I'm happy for this opportunity to share my thoughts with your readers.

William West
Tampa, Florida

Thanks for the letter, Bill. You hit the nail right on the head and we're sure owners of raceways around the country agree completely. We have personally seen customers do outrageous things to tracks and raceways. There's just no excuse for it.

NEEDS SCENERY AND ACCESSORIES

Please tell me where I can buy grandstands, spectators, fences, etc., for my home track. I can't find them anywhere.

Jim Travis
No address

Try Auto World, Jim. Their address is Auto World, Dept. MCS, 701 N. Keyser Avenue, Scranton, Pa. 18508. Send 50¢ for their mail order catalog.

YOU LOSE, D'AURIA

I'm not going to tell you that your mag is great, interesting, informative, etc.,—because it's not! I never in my entire modeling career (I started when I was six and now I'm 15) bought a model mag until I saw your January, 1968 issue. I liked the rocketry, R/C boats, Dennis Elliott, and HOCCI articles. I've been racing since the Aurora Vibro-cars, although I doubt if your infintesimal, 1/24 scale mind has every seen a T-Jet, let alone a Vibro--Jet. Bad enough you took Elliott out, then you took HOCCI out too! There's nothing worthwhile in your mag anymore. It's just 66 pages of thrilling advertisements and once in awhile a how-to on building a stock model.

I bet my friend $3.00 that this letter wouldn't be printed, so who wins?

By the way, in case you want to know what your title means, it is "model cars, including HO, and all other aspects of modeling, including boats, planes, trains, military models and all the other things in the realm of scale models and operating devices in the scientific area.

An ex-reader,
Kenneth D'Auria
Mt. Vernon, N.Y.

Cough up the three bucks, Ken. We've never been afraid to print letters from readers. When you're in the business of publishing an enthusiast magazine (people get violent about their hobbies) you get all kinds of angry letters. However, we get far more letters of praise.

We started phasing out the boats, radio control, etc., after we analyzed the letters from our readers. Most of them wanted model cars, *although a good percentage dug the airplanes and especially the model rockets, so we still run an article on these two interesting subjects when we get something good.*

Most of the people on our staff were racing slot cars before you were born. You had best check the past twelve issues of MCS for an article count. You'll see that we have not given 1/24 scale the edge in any way, shape, or form. HOCCI was squeezed out last month for lack of room, but we usually run it every month and intend to in the future. It's one of the most popular features in our magazine. We have a new HO writer this month.

Furthermore, we have great article on designing an HO track too.

Nothing of interest in MCS? Check just the last two issues. We've run how-to articles on modifying static model wheel wells. cobweb painting, building an HO stock car, how to design a slot track, a wild three wheel motorcycle, customize a Shelby Mustang, install lap counters in home track, build a surf wagon, a wild dune buggy, wiring a home track, scratch-building a 1/32 scale F-1 car, spray painting, building a fiberglass car, and a Trans-Am Javelin, not to mention the groovey articles in this issue.

Your definition of our title is certainly odd. "MODEL SCIENCE" would apply to it, but "MODEL CAR SCIENCE" surely would not. We define it as "The science of building model cars."

Pay up, Kenneth. The day we stop printing critical letters is the day we'll start to worry.

HOOK UP THAT TRACK

In your article "How To Design A Slot Track," in the December issue, question number three, you made referance to using a 12-volt car battery for a power supply. What is the exact arrangement for hooking up the track and controls?

R.R. Kelly
Detroit, Mich.

Page 53 of the January issue shows a wiring diagram with instructions, Mr. Kelly. Hook the battery to the track with large alligator clips, available in any automotive store.

SURE, SEND IT IN JOE

I read your mag often, and seem to get more information from it than any other. If I gather up some information about slot racing in this area and send it to you would you print it to let other slot racers know what goes on around our part of the country?

Joe James, Sr.
Portland, Ore.

Joe, if you have some interesting information, drop us a line. We'll manage to work it in somewhere in the issue, perhaps in an editorial. That goes for any of you fellows out there who think you might have information that other readers would be interested in.

NAMRA AND HOCCI

Where can I get a NAMRA rule book, and how can I join?

Greg Berger
Palos Verdes, Calif.

I've been an HO enthusiast for some time. How can I go about joining HOCCI?

Robert Harkins, Jr.
South Amboy, N.J.

Any reader interested in joining either of these groups can get information on how to join by sending a long, self-addressed, stamped envelope and their dues to NAMRA/HOCCI, P.O. Box 578, Times Square Station, New York City, N.Y. 10036. The inquiry must be accompanied by the self-addressed, stamped envelope. NAMRA is for 1/32 and 1/24 fans and HOCCI is for HO scalers. Specify which one you're interested in when writing to NAMRA.

WHERE TO GET "PROFILE" BOOKS

I read your story on the Duesenberg SJ Town Car in the recent issue. You mentioned "Profile" publications. I'm stationed in Danang and would like to know how I could get one.

Sheldon Enoy, Jr.
FPO San Francisco, Calif.

Send a self-addressed, stamped envelope to John Caler, Dept. MCS, 7506 Clybourn, Sun Valley, Calif. 91352. John handles the Profile line.



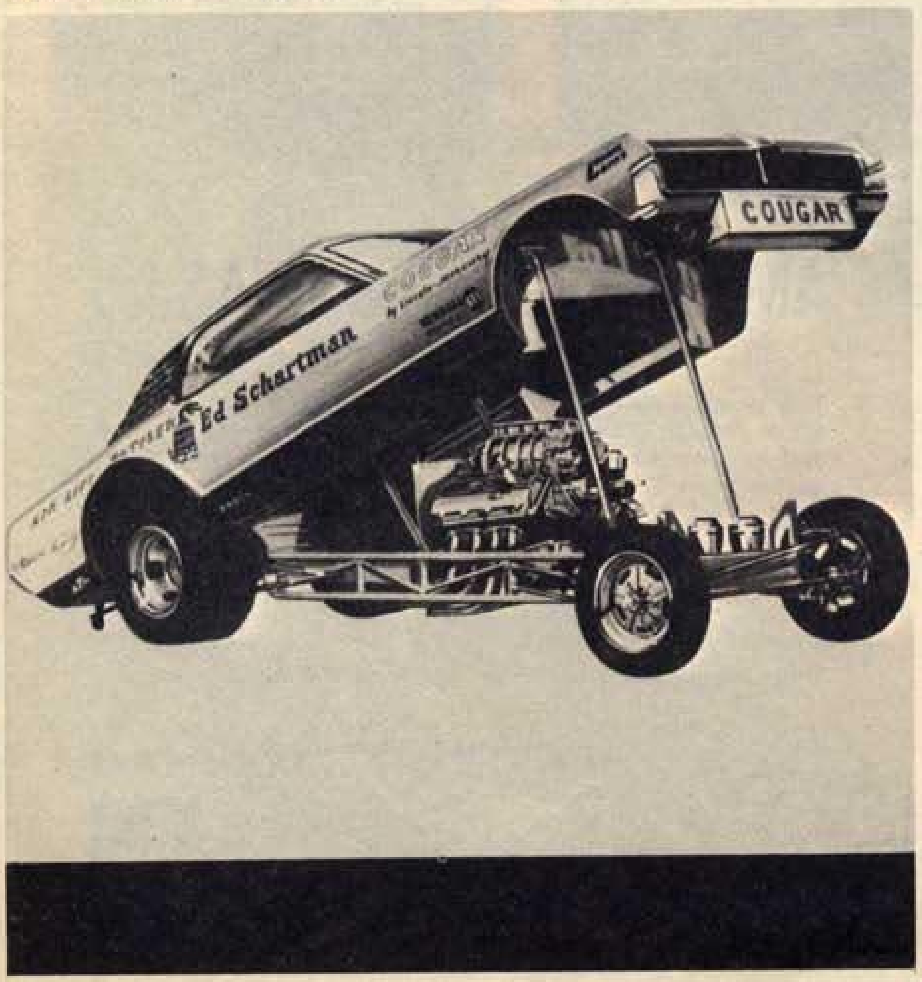
"Man! Are you telling me that car of yours isn't even flat out?"

New Products



"MATCHBOX" strikes again! Check that Mercury Commuter, Mercury Cougar, Lamborghini Miura P-400, and the Ford Pick-Up Truck. They have steering! Dubbed "Auto Steer," the device turns the front wheels as the vehicle rounds a curve, for added realism. Watch for them in your nearby hobby or department store.

MPC's "Rattler" is a wild kit with a new technical breakthrough. In accurate 1/25 scale, this model, a copy of Ed Schartman's "Air Lift Rattler," has the pearlescent paint job molded right into the plastic! No painting necessary! Look for it on your dealer's shelves, NOW!



HERE THEY COME!

AMT's 1969 Mini Trophies!



AMT's Mini Trophies Are A Snap

(No Glue Required!)

This fabulous new 1/43rd scale series of Mini Trophies is really super detailed. Every kit features snap-together construction, and is complete with vinyl tires and colorful decals. These exciting new Mini Trophies are available now, only $1.00 each.

T-Bird • Corvette • AMX • Mustang • Chevelle • Torino

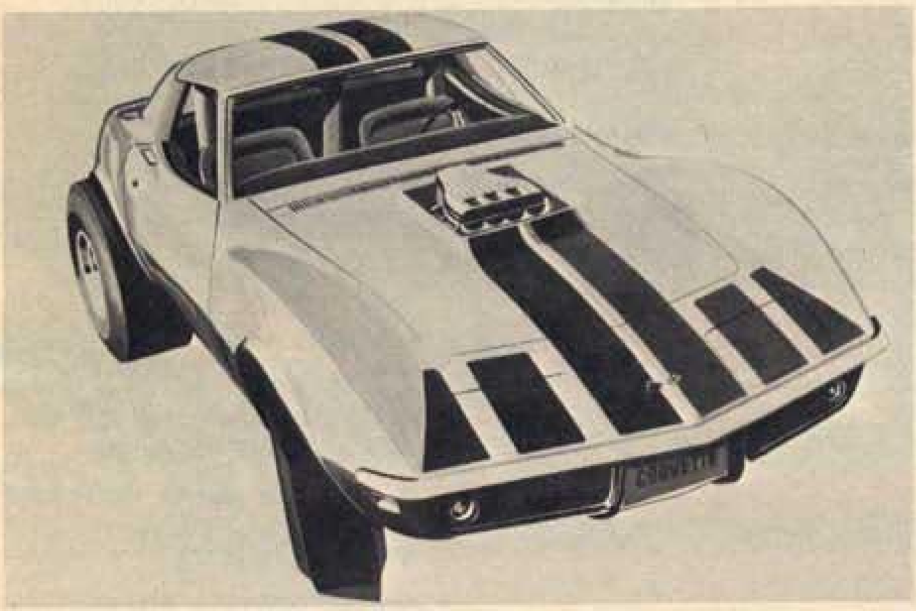
Other great new Mini Trophies coming soon:
Camaro • Cougar • '48 Ford Coupe

Special Bonus Feature!
Every Mini Trophy has its own *clear plastic display case!*

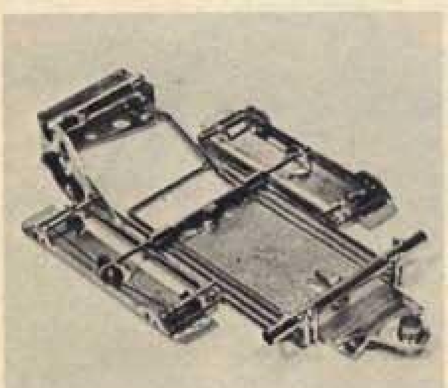
THE AUTHENTIC KITS ARE FROM

amt





A real natural for the advanced racer who wants the ultimate in handling is Champion's Brass Rod Anglewinder Frame. A honey of a bargain at $9.95. The Brass Rod Frame features one-inch wide brass plate drop arm, adjustable gear ratio, and floating body mounts. It's the closest thing to a scratch built chassis yet! The one-piece motor mount and rear axle unit will withstand the torque of the very hottest motor.



AMT knows what's happening, baby! They've just released this outstanding '40 Ford Coupe (one of our all-time favorites) and a wild, California "Mod" '69 Corvette, both in 1/25 scale, at $2.00 each. The Corvette can be built five different ways, the '40 Ford, three.

Dodge L-700 Tilt Cab



NEW!

another First

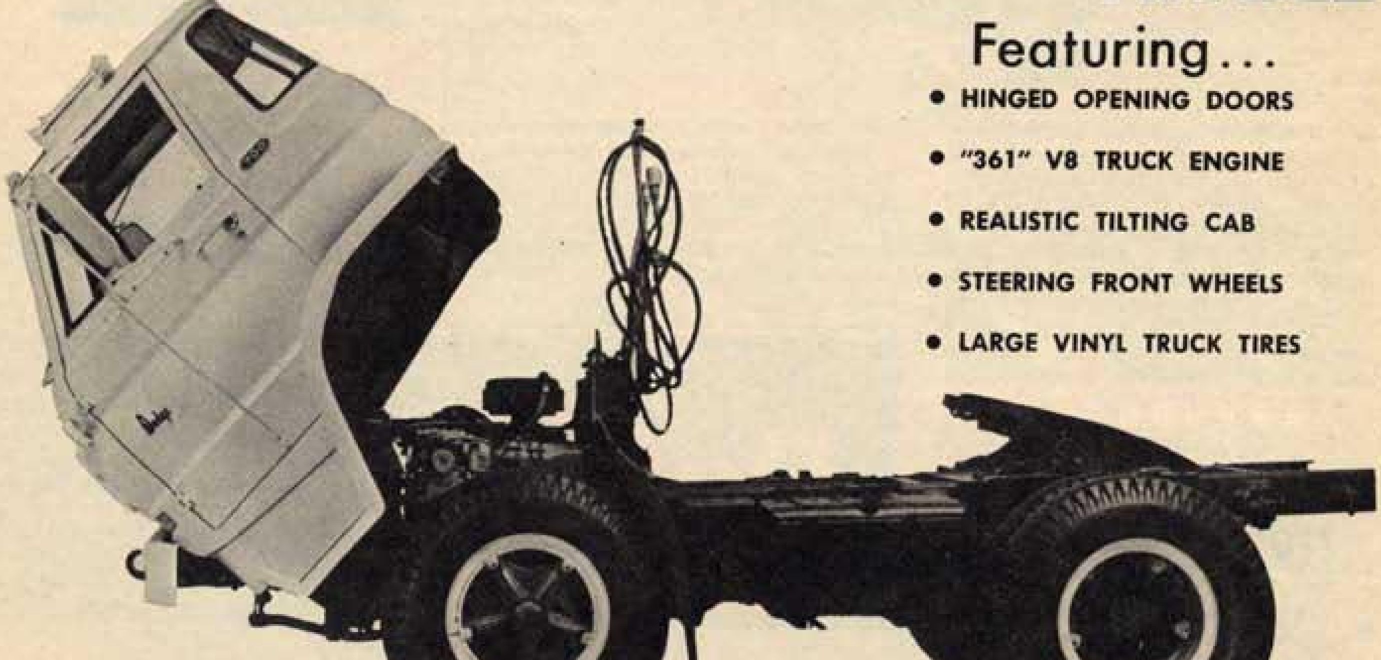
Introducing IMC's Dodge medium-duty tilt cab tractor in authentic 1/25 scale, the "BIG" tractor kit, the DODGE L-700 a short wheelbased interstate tractor hauler, with all the typical action features of a IMC kit included. Dodge builds tough trucks . . . IMC builds tough kits.

Dodge L-700 Tilt Cab

Retail $3

Featuring...

- HINGED OPENING DOORS
- "361" V8 TRUCK ENGINE
- REALISTIC TILTING CAB
- STEERING FRONT WHEELS
- LARGE VINYL TRUCK TIRES



INDUSTRO-MOTIVE CORPORATION • TROY, MICHIGAN 48084



A hobby on the way "up" is model rocketry! Here's Centuri Engineering's Leroy Piester, preparing to fire one of his perfect-scale models of a newly-developed rocket. Check their ads for a great catalog.

We're sorry about this, guys. In the December issue we reported the incorrect prices on the fantastic 1931 Alfa Romeo that is sold by Sinclair's Auto Miniatures, Dept. MCS, 3416 West Lake Road, Erie, Pennsylvania 16505. The price is *not* $97.50—it's $87.50 postpaid. Better yet! This fantastic Alfa has 1452 pieces, and is without a doubt the most amazing kit ever offered to the enthusiast. Their 1907 Fiat F-2 kit is priced at $49.95. You'll see a full pictorial report on the Fiat next month, and one on the Alfa in the issue after that! Stay tuned.



Jumbo full-color prints of exotic cars can be yours for just $3.00 each, from The Motoring Shop, Dept. MCS, 621 Pearl Street, La Jolla, California 92037. These giant (24" x 60") silk-screened prints are imported from England; there are seven cars in the series. Write direct, for information.

the HO scene

By Tom Payne

Through the magnifying glass into the "little world" of racing.



Let's get one thing straight, right now! Unlike my predecessor, *I'm an Aurora fan!* Sure, I know they've got faults, but those guys have put out more good HO scale racing machinery than a guy has a right to expect, and if you'd stop and think a minute, you'd realize that the HO scale scene would be pretty bleak right now, if Aurora was missing.

Now that I've established that, I'll get on with doing "my thing," which is reporting on the HO racing world, the way I see it.

HOCCI, which stands for "H. O. Competition Cars International," is really getting organized! (Check "Hocci World," page 27–Ed.) HOCCI is the only international H.O. scale road racing association, and the one that MODEL CAR SCIENCE recognizes and backs. Their new racing program for 1969 should be a lulu! Let's hope that their mail-in events get more play this year. You guys who do the belly-aching all the time about not having any races like the big scales have, give me a pain! If you didn't bother entering a car in HOCCI's 1968 mail-in events, you have nothing to complain about. When you start entering, I'll start taking you serious!

"WINNER OF THE MONTH" DEPT.

I'm continuing the monthly contest that appeared in the old "Word From the Wee World" column. This month's winner is Randy Kemp, 617-8th Street, Huntingburg, Ind. 47542. Randy's 40 foot, 4-lane layout took two months to complete. Randy is 20 years old and he races from a wheel chair. He wants to thank HOCCI for the mail-in races, which he states is the only way he could possibly enter the far-off races he reads about. Congratulations, Randy, your one year subscription to MCS is on the way.

For you guys who aren't familiar with our contest, all you have to do to win the year's subscription to MCS, is send us a good black and white photo of your HO track, and a short description. I'll pick the winner each month and run the picture in this column. Get with it.

"BET YOU DIDN'T KNOW" DEPT.

HOCCI would have been nothing but a fond dream if it hadn't been for Ray Hoy, our mad editor. Ray, a dedicated, hard-line 1/32 scale buff, was the one who actually had the original idea for HOCCI, and he started the association a couple of years ago. It soon got out of hand, growing at such an alarming rate that the paper work, alone, swamped him. Since all he wanted to do was get HO rolling–somebody had to–he then turned to NAMRA (North American Miniature Racing Association), the only "scale" organization in the country, and offered them the HOCCI association, lock, stock and barrel, no strings attached, if they promised to take the squalling, growing child, and feed and care for it. This NAMRA did, better than even Ray hoped for. They threw the considerable talent that they possess in the form of many highly knowledgeable racing enthusiasts with years of experience, into the battle, and HOCCI now stands strong and financially independent. Even though you're a 1/32 scale fan, Ray, we thank you. You can't be ALL bad! (Don't take bets on it, Payne!–Ed.)

"WHAT'S CHAMPION GOING TO DO?" DEPT.

Way down there in Georgia, there's this wild group of guys, see? They build out-of-sight 1/24 scale racing equipment. Some of it is suitable for 1/32 scale, but so far, nothing for HO scale–OUR scale! Not too long ago we began hearing rumblings from their neck of the woods about some experimental HO goodies. Sure enough, upon further questioning, ol' "Boob" Rule throws us a bone or two and says there's a good chance there'll be a complete line of HO scale equipment in the very near future.

On the list of proposed goodies, already being worked on, and in various stages of progress, are: Silicone rear tires and wheels with set-screw hubs; set-screw axles; vinyl rubber front tires on set-screw hubs; Arco magnets; stamped brass pan (fits most existing HO chassis); silver brushes; hand controller with 45 ohm resistor (and a 25 and 35 ohm replacement resistor will be available); special replacement guide pin; 1/16" i.d. axle spacers; rewind wire in numbers 34, 36, 38; improved electrical motor components (cryptic!); and flexible pickup wires. And work on a complete motor/chassis unit is going on too, but it's reported at least a year off. Many of these items were reported on way back in our October issue, and they're not out yet, but we keep hoping. Sob. Who knows, maybe they'll hurry the release if everybody bombards them with requests. Let them know you're interested in what they're trying to do for HO. Write to Bob Rule, Champion of Chamblee, 5620 New Peachtree Road, Dept. MCS, Chamblee, Georgia 30005. Tell 'em Tom Payne sent you. Don't expect a personal answer, because they're buried with work. And let's face it, we don't want to take them away from something as important as what they're working on!

Until next month, hang in there. And drop me a line if you've got something that you think will be of interest to your fellow HO followers. Or write if you're just bugged about something. Send your letter to me, Tom Payne, "The HO Scene" MODEL CAR SCIENCE, 131 Barrington Place, Los Angeles, California 90049. They'll see to it that I get your letter.



No "pie in the skywagon," all styling and performance ideas on the Monogram "Pie Wagon" could be used to build a life-size version of the truck/rod for street or show.

THE "PIE WAGON"

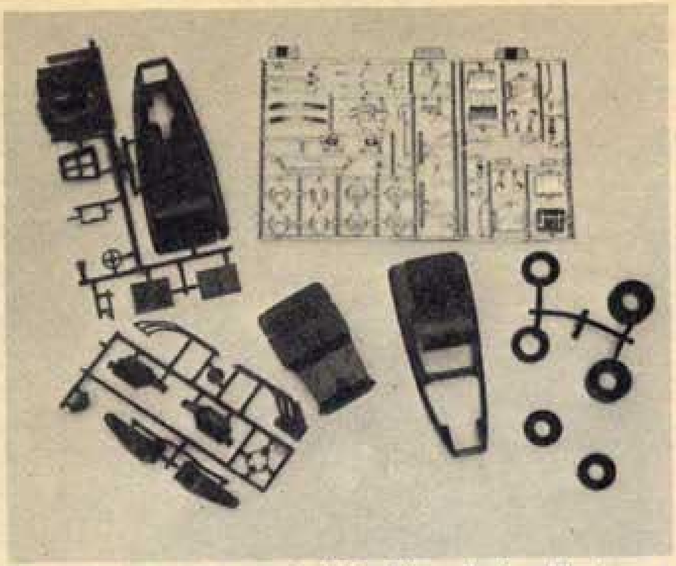
Monogram's newest "dream rod," the "Pie Wagon," is nearer fact than fantasy

Don't let the 1980-styling on this rod fool you! California custom designer Tom Daniel has managed to integrate an across-the-century styling theme into a most practical, "mod" show rod. Designer Daniel started with a body design with a monocoque chassis sculptured to allow the use of space age plastics or fiberglass with a futuristic flare. The 1980 Corvette *could* look like this? The gas taillight, with its wrought iron-style bracket, the horse-drawn delivery wagon body type, and the ornate "Pie Wagon" ads on the sides drop the styling theme clear back to the 1880's.

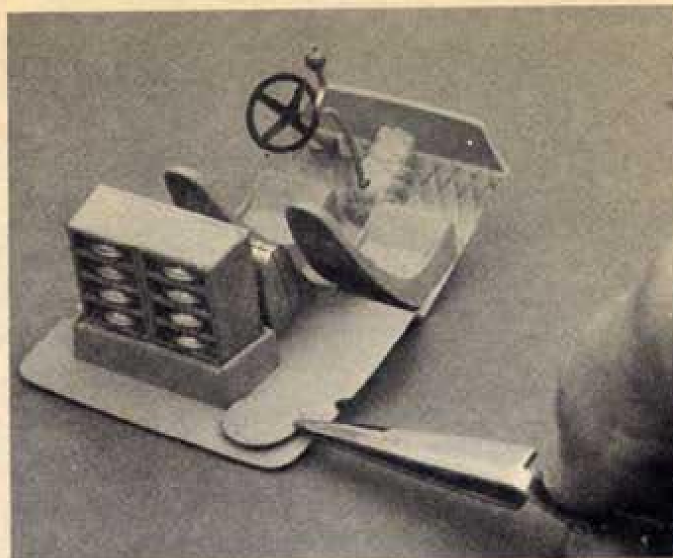
To bridge the century gap in style, the front and rear springing is definitely 1920-era, with a never-say-die Ford flat head V8 engine incorporated into the design concept. Details like the brass-plated Model T radiator shell, "spectacle" driving lights, bottle glass rear door, extended shift lever, and quick-change rear end further the span-of-a-century styling theme.

Monogram has captured Daniel's ideas in this 1/24 scale kit. There is the usual array of chrome accessories and engine details you can expect from such a show wagon, but there is much more . . . The radiator shell, "spectacle" driving lights, shift lever, drum headlights, gas tank, and taillight are plated in "antique" brass. The body is molded in a delectable cherry color, with a cherry decal for the body sides, and a cherry-shaped gear knob (with the stem of the "cherry" a reverse lock-out switch). The bottle glass-windowed rear door opens to reveal a case of pies with one loose pie to set on the floor. The rear springs are neat quarter elliptics that actually do "spring" to the touch.

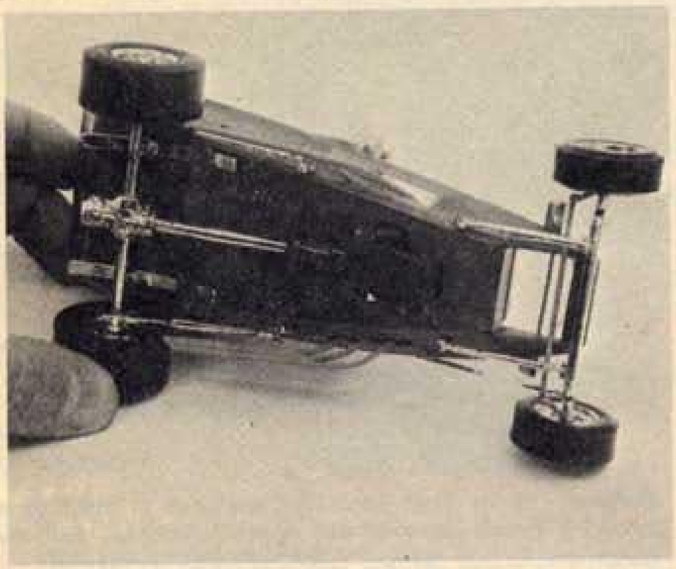
If you aren't satisfied with your Pie Wagon decaled to deliver "Mothers Pies," you can slap on alternate body decals to make this truck/rod a "Pizza Wagon" or a "Taco Wagon." The interior, headers, and body flares around the headers can be painted a nice shade of flat "pie crust" beige to contrast effectively with the cherry color of the body.



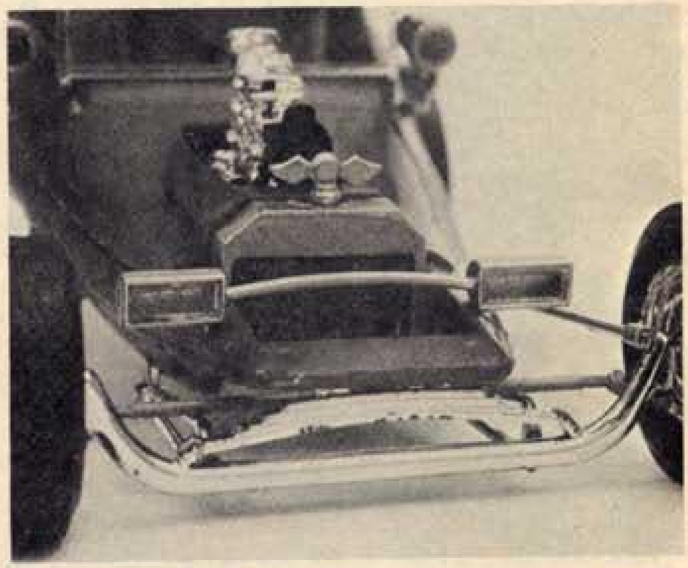
If there ever is a real "Pie Wagon" it will have a plastic-molded "monocoque" chassis/body to make construction as simple and strong as Monogram's 1/24 scale kit.



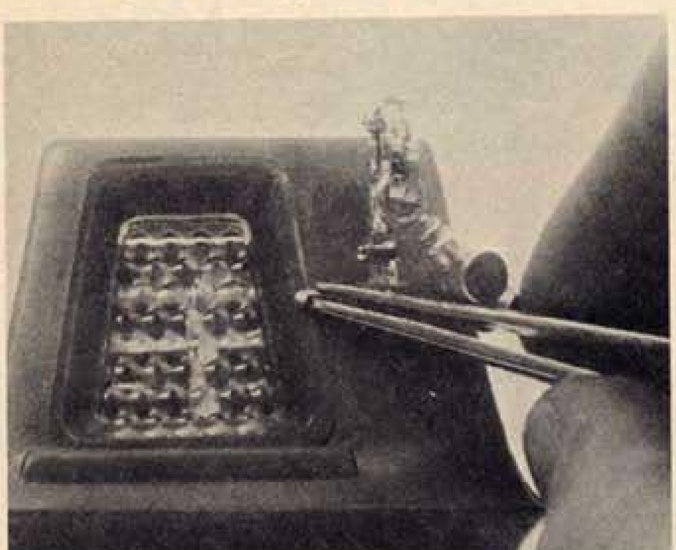
Assemble interior and paint a flat shade of "pie crust" beige. Rack is full of pies, with one to sit on floor. Gas tank is brass-plated.



Quarter elliptic rear springs will actually flex on this model. Quick-change rear end is "go" touch.



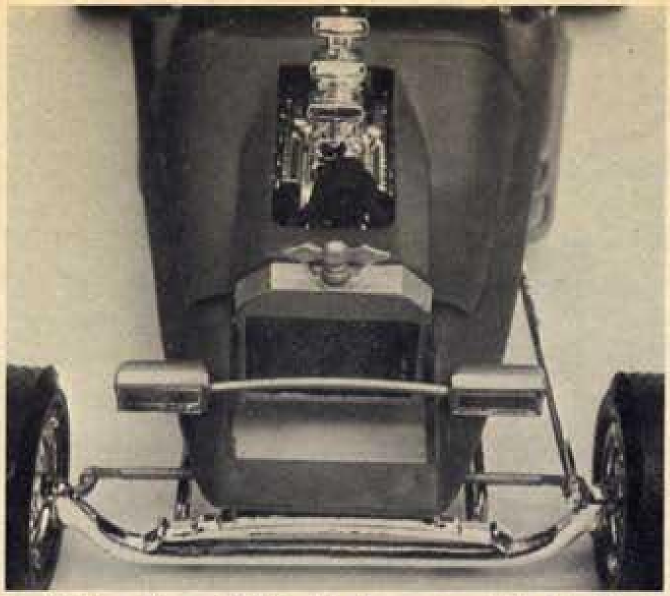
Square driving lights and brace are styled by car's designer, Tom Daniel, to look like 1880 reading spectacles.



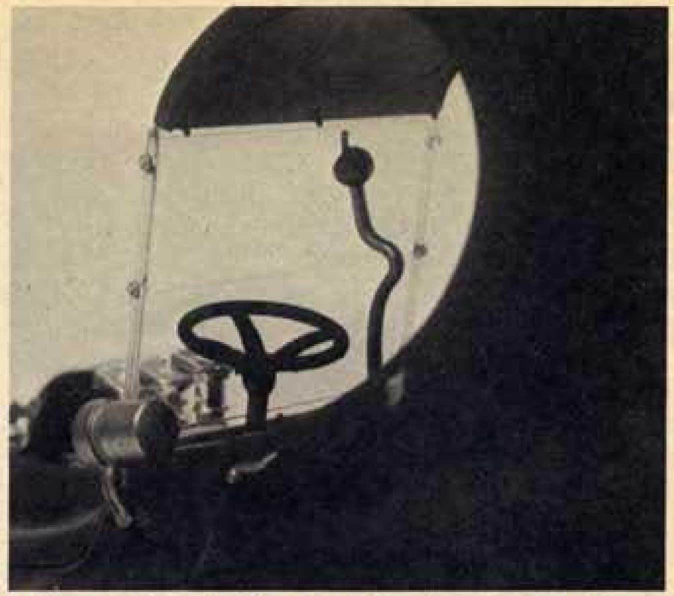
Access door to pie rack and pies has a bottle glass window and is hinged to open by pulling latch.



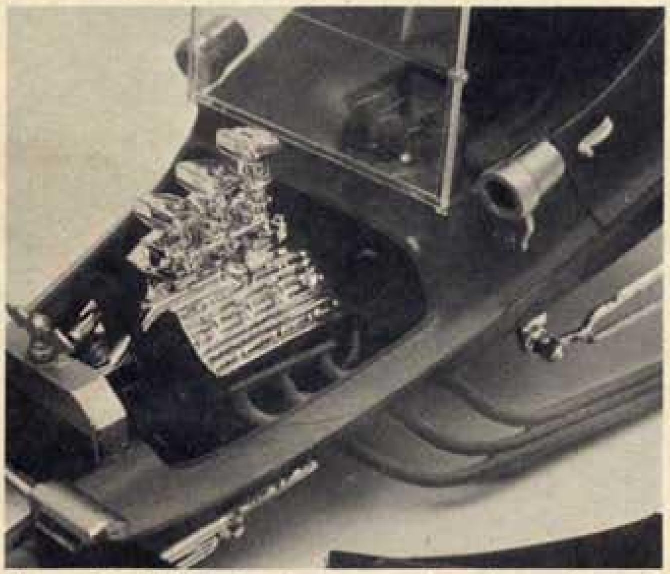
1880-era gas lamp and wrought iron style bracket serve as a taillight. Lamp is brass-plated, bracket chrome.



Model T radiator shell is also brass-plated in kit. Hood blends sweeping lines of body with angular grill shell.



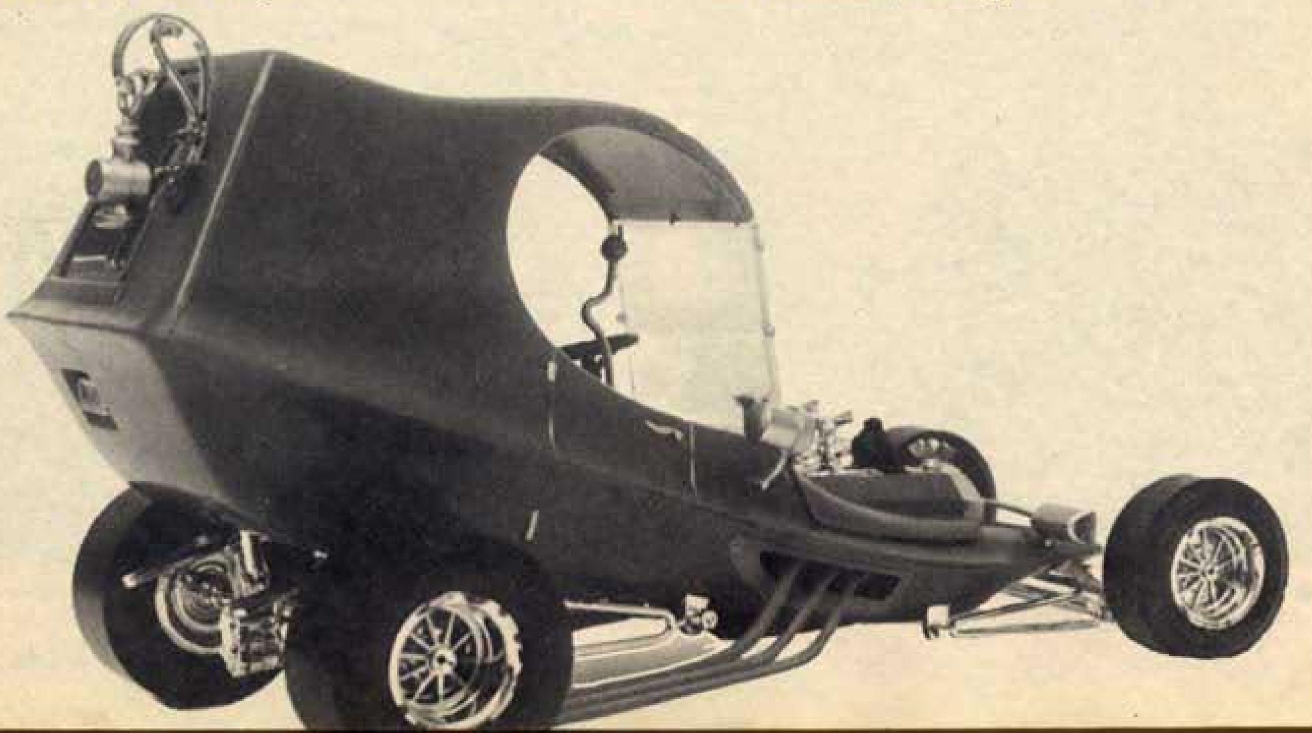
Antique steering wheel and gear lever complement delivery wagon concept. Note the cherry-shaped gear knob!



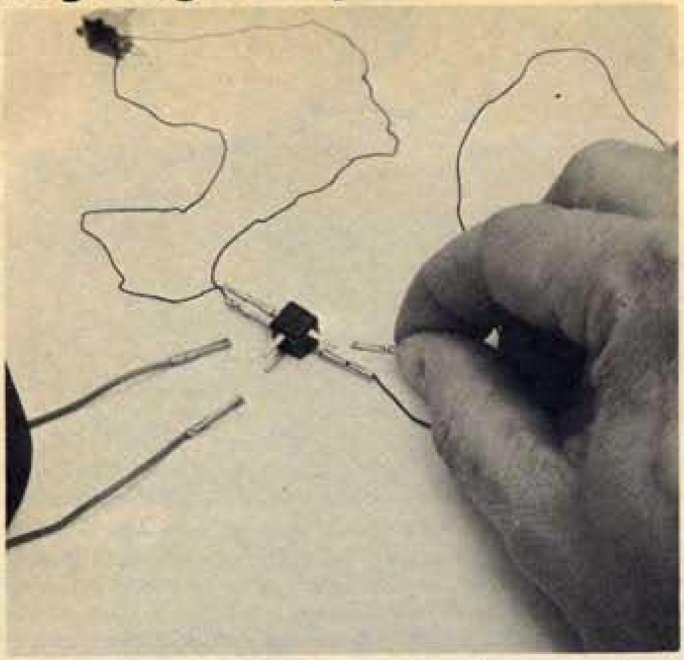
Vintage Ford V8 flathead returns to the rod scene beneath the hood of the "Pie Wagon."



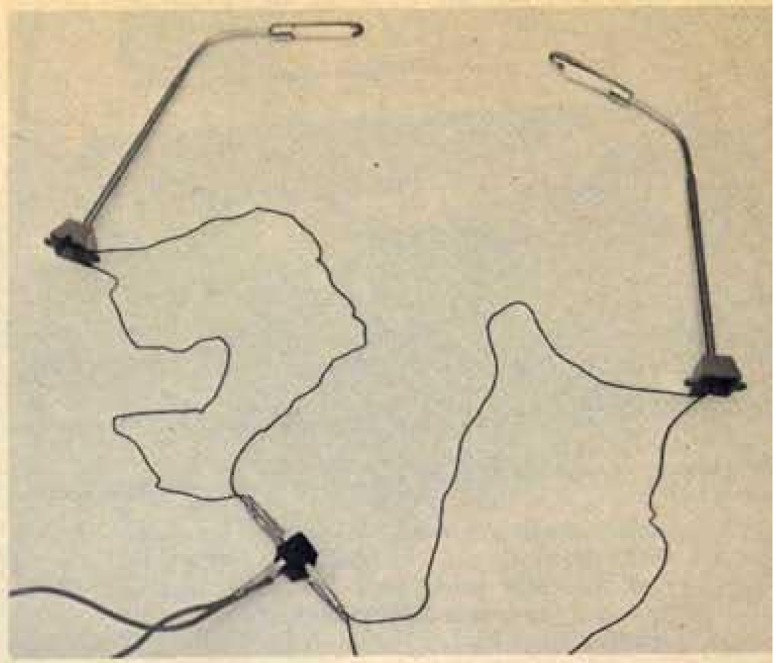
California stylist Tom Daniel has managed to integrate a sweeping body line with the angular 1880-era delivery wagon style. This method could be easily duplicated in a full-size fiberglass version with intergral body and chassis like the monocoque racing cars.



Plug-in lights for pits



3-way plugs connect the lights with extension and/or connecting cables pre-cut with sockets in 1-, 2-, 3-, or 4-foot length. As an example, wires from two lights are plugged into terminal block.



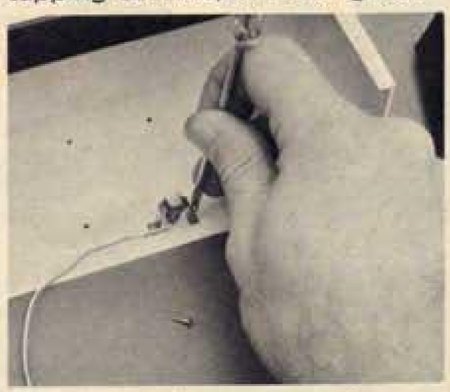
Two wires lead out of picture to 12 volt DC power pack. Extension cables, or more light units can be connected into system by merely adding more connector blocks.

Model Mechanics

One of the more realistic scenes in all of modeldom is one of night time activity, illuminated by miniature lights in and around the buildings. If you think you have to be an electrician to equip your model scenes with lights, take a look at the views on these pages. Everything, from wires to power pack, either plugs in or attaches with a single screw, the result of a new idea in ultra-simplified model lighting by Tyco.

Tyco supplies a wide variety of light poles ranging from a simple old time gaslight-type of street light to a four-unit floodlight tower. They also offer a simple light bulb bracket with bulb and wires to use inside a building. All of these types of model lighting *plug* into a neat system of cables and terminal-connecting blocks. The lights have plugs or bare wire ends that will fit in with other plugs, and a series of power cables ranging in length from one foot to four feet. A separate, 3-way connecting plug is also offered to tie the entire plug-in system of lights and cable together. You simply plug all of the lights and cables into the 3-way terminal blocks and run a single pair of wires to any 12-volt DC power pack; that's all there is to it. NO soldering, or even wire cutting, is needed.

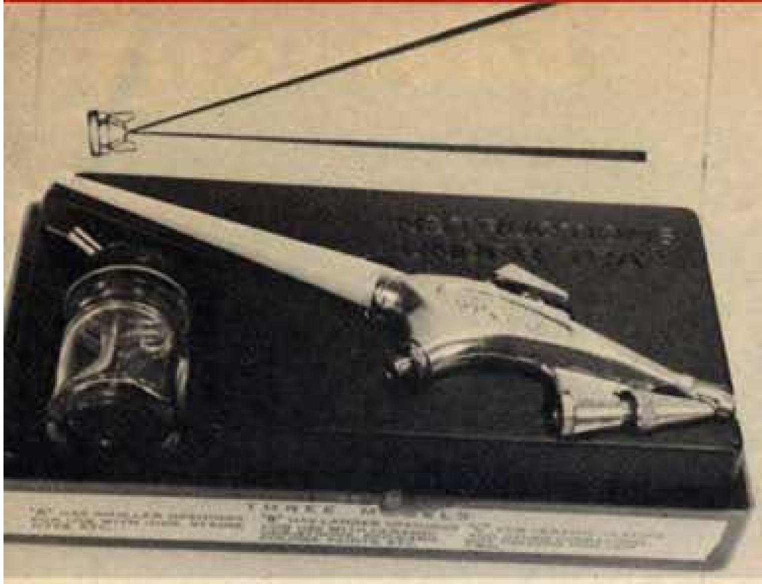
Tyco "Accessory Lighting" kit is attached to this MRC/Scalextric pit building with a pair of self-tapping screws, or even glue.





This busy pit scene makes a most impressive display for either motorized or static models. Night view is a surprise to most.





Here is one of the finest airbrushes on the market. It is the Binks Wren with the "A" head. It is about the best you can find for close work, such as camouflaging and micro-painting. The cost is $24.95 without the compressor, extra at $40.00!



The Wren and the Badger airbrushes. Both fine guns for their cost. The Badger is only $5.00 but well worth it when it comes to better than average results. You can't cut down on the color with the Badger so you will have to use masking tape to get fine line camouflage paint jobs.

PAINT LIKE A PRO...

...THE AIRBRUSH WAY

By Ben Millspaugh

The airbrush is, without a doubt, the only way to go if you are going to "paint it right." For years airbrushes have been used by artists to paint various projects from ceramics to industrial illustrations. The airbrush is a miniature paint gun and, with the right compressor, it can put on a finish that will make a fine model look like the real thing. Airbrush technique is like any other kind of painting. Perfection comes with practice. You have to experiment, experiment, experiment. Then when you think you have the right results, do it again and again for perfection. You can cut the fan pattern on high quality airbrushes down to almost 1/16th of an inch or spread it to a couple of inches, depending on the type of color head you are using.

There is a certain way to thin your paint to get it to go right. Let me quote a few words from a great little book on painting. Floquil Products, Cobleskill, New York 12043, puts out a book called "PAINTING PLASTIC MINIATURES." This book is worth its weight in gold. With the book comes a series of 10 charts with camouflage paint chips for most all of the armed forces around the world. The book and paint chips aren't cheap but they are well worth the price if you are going to model planes or tanks. If you are going to model just cars, you might still like to know about airbrushing since it will give that very desirable snow finish" that the top models have. Now back to the Floquil Booklet, "THINNING FOR AIRBRUSHING. Approximate thinning proportions are color 75%, glaze 5%, (to insure adhesion), Dio-Sol (thinner) 20%. You must thin your colors to the viscosity suitable for the particular job. However, thinned color must be left viscous enough to hang onto the corners and edges of the model when the color touches the part." This quotation will tell you the way that the experts thin paint for airbrush work.

Floquil paints are used for military miniatures and military combat machines (aircraft, armor, jeeps, vehicles, etc.) and they may be purchased at most larger hobby shops. Remember, when you thin something, you are cutting down on the coverage. This applies to all types of paints, whether they be Pactra, Testors, Scalecrafters, Floquil, Imrie-Risley, Official etc.

Let's take a look at some of the more important points about airbrushing including the art of cleaning the airbrush.

Don't forget, professional airbrushes cost a good deal of money. You can achieve quite satisfactory results with the Badger unit and their great little bottle-packs of air. We will show you just two. There are many more great airbrushes on the market including the SPRAYIT and a fabulous gun called the Paasche.



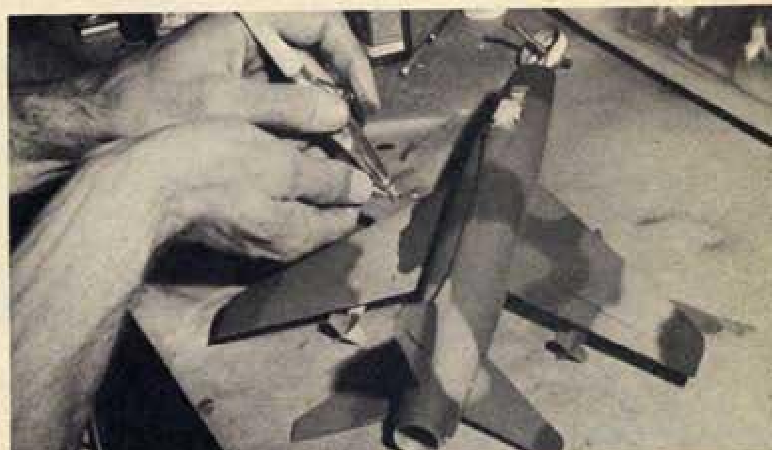
Some of the things that can help your results in airbrush work. The thinner and paint are the things you will need to start. The Dullcote can be used to flatten all of your model when completed, and the PLA can be used to "fill in" or blend colors when you are airbrushing.



When you get your paint thinned right and you're hooked up to a source of air, check your fan pattern on a piece of cardboard BEFORE painting the model. The Badger doesn't offer much change in fan pattern but the Binks Wren offers a wide range of coverage.



Cut the color down to a "near minimum" and move in close, as shown. The paint should hit the surface almost dry, if using Floquil, and reasonably medium dry if using enamels, such as Pactra, Testors, Scalecrafters or Official.



You can constantly adjust the knurled color adjustment on the Binks Wren-Material control, by holding the gun, as shown. Note also that when spraying a camouflage line, you spray so that the "overspray" goes right back into the area color you are spraying. In his manner you get a soft line which is quite common in camouflage.



Because of the larger fan on the Badger, you will have to move back further from the area being sprayed. Also, you will have to use masking tape to get the desired camouflage line such as on the wing of this Spad.



One of the most important things in airbrushing is to keep the gun clean. A neat trick with the Binks Wren is to use an eyedropper, filled with thinner, and squirt in the back side of the material control where it attaches to the bottle. Simply squirt several "loads" of thinner through the control to get it clean.



To clean the Badger, first, swish thinner around in the bottle after the color is poured back into the original container. Then spray a short burst.



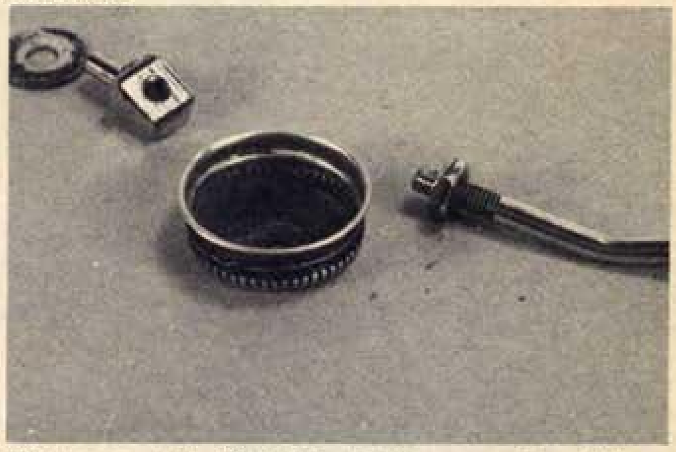
The same procedure is repeated, only this time the rag should be clean and dry.



To clean the Binks head, remove the slotted retainer screw or nut from the inside of this barrel unit and clean the inside with a pipe cleaner dipped in thinner. There is a small rubber "O" ring which must be kept clean.



When you have sprayed the thinner out of the gun, stuff a rag into the bottle and wipe it out. This rag should have been dipped in some thinner to remove paint crusted on the wall of the bottle. Next, wipe the inside top of the spray bottle cap.



The top cap of the Binks Wren bottle or cup often will have encrusted paint which might contaminate future painting. To clean this assembly, take it apart by loosening the nut on the lower tube, then unscrew the upper "head." Dip a pipe cleaner in thinner and run this soft fuzzy, "rod" through the tubes and around the parts to remove old paint.



To clean the color head, run a small pipe cleaner such as Dill's (not the reamer type) through the backside, as shown. It is a good idea to get the repair kit ($2.00) by Binks, (shown) in case parts are worn or damaged.

SPEEDY

by Puckett



Motorcycles have always had a well deserved reputation of being very fast since they have a lot of power and very little weight. E.J. Potter, "the Madman of Michigan," was one of the first successful men to carry this power-to-weight ratio to extreme. He mounted a hot Chevy V-8 in a motorcycle frame and blasted his way to speeds in excess of 170 mph in the quarter-mile. The bike is a real crowd pleaser at strips around the country. Smoking, sideways runs down the full quarter mile are "Madman" Potter's trademark. Most of the bikes in this class are fired up on rollers, reved up with the transmission engaged and dropped from the center stand with full power on. The result is instant acceleration.

Revell has just released a beautiful model of a Harley Chopper which is ideally sized for V-8 power. Unfortunately, it's a "springer." The frame must be made rigid or the Chevy's torque would turn it into a high powered pogo-stick. The mating of Revell's Triumph and Harley frames results in a very authentic looking rigid Harley frame. This bike could be made entirely from either the Harley or Triumph drag bike kits. For an interesting and equally authentic drag bike, try building it the way I've shown, but with the Harley engine in its stock location.

MATERIAL LIST

- Revell "Chopped Hog" front frame half and related pieces.
- Revel "Custom Triumph" or "Tiger 100" tank and handlebars.
- Monogram 1/8 scale Chevy customizing engine kit or Monogram "Big Drag."
- Packaged assortment of HO scale plastic bolts.
- 18 gauge teflon coated wire (2 feet)
- One sheet each of .040 inch and .050 inch sheet styrene.
- AMT body putty.
- Revell "S" glue.
- Paint.
- India ink.
- Monogram accessory slicks or Harley rear tire.
- Revell "Triumph drag bike," remaining pieces.



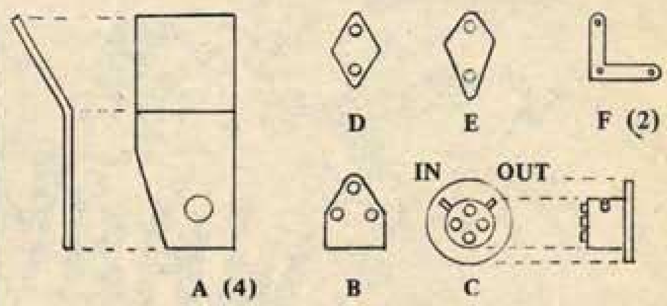
V-8 DRAG BIKE

By "Brick" Price

Would you believe a bike with a Chevy V-8? Hairy!

FULL SIZE TEMPLATE

A. Motor mounts
B. Fuel pump hole plug
C. Fuel pump
D. Hole plug (right)
E. Hole plug (left)
F. Bell cranks–throttle

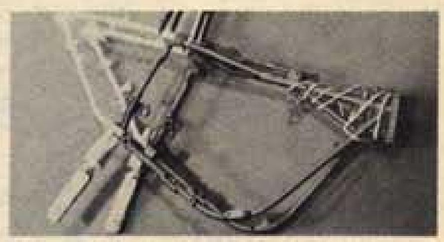




Glue all of the pieces of the basic block together. None of the operating pieces inside the engine are necessary. The valve covers and pan are tested for a precise fit. Paint the block and set aside to dry.

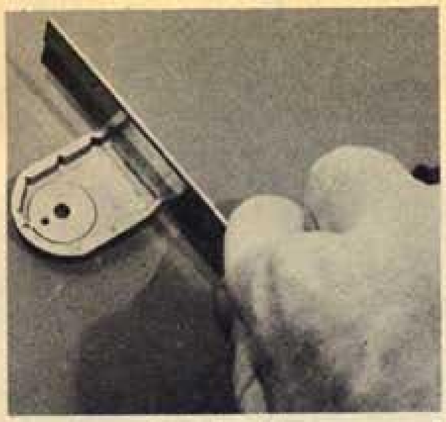


Flow ink in between the valve cover fins. When the ink dries, just polish the tops of the fins with a tissue paper.



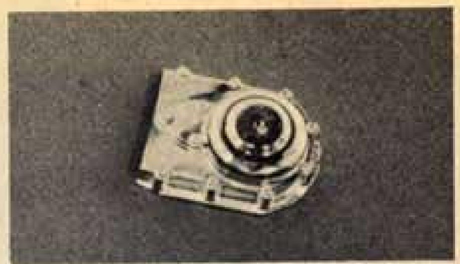
The front half of the Revell Harley frame was mated to the Revell Triumph frame. The lower tubes of the Triumph frame must be heated and bent up to meet the Harley frame. At the junction of the two frame pieces you can drill holes and insert bolts for more realism. Allow at least eight hours for the glue to set up.

Special thanks to Competition Motors of Torrance, California for assistance with information on the Chevrolet engine and Hilborn injection system.

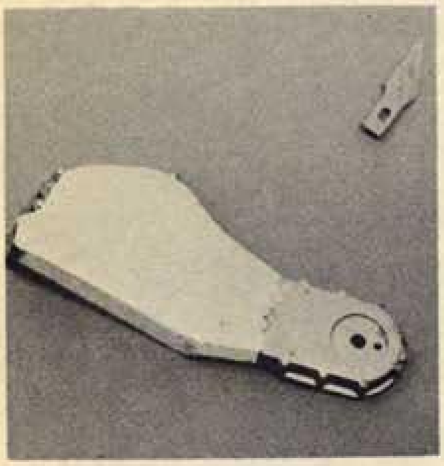


Cut the end of the blower case end plate #103 and sand the outer surface smooth.

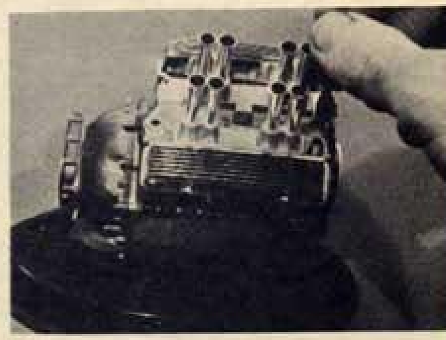




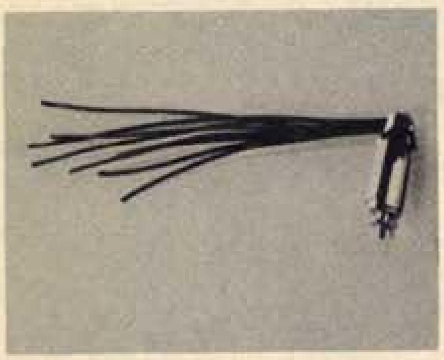
Cut the bell housing to a width of 5/16 inch. Fit a piece of .040 inch sheet styrene to the bell housing and glue in place. The blower case (#103) is glued and puttied to it. The whole assembly should be 3-3/4 inches long and angled up slightly from the engine. Sand and paint this to match the engine color.



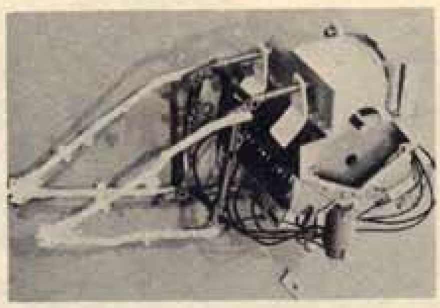




Glue the valve covers and injectors to the engine. Ream the injectors with an X-acto knife and paint the inside flat black to appear more realistic. Refer to sketch for engine details.



Drill eight holes, large enough to accept 18 gauge wire, in one side of the magneto. Use a drop of epoxy to hold them in place.



Cut a segment from the lower frame rails large enough to accept the engine block. Glue the four motor mounts to the ends of the frame rails and check for fit. Paint the frame and glue engine in place.





Cut approximately 1/8 inch from the chromed blower case and glue it to the centrifugal clutch housing.



Add approximately 3/16 inch of .040 inch Styrene to the rim of the Triumph drag bike rear wheel and paint it chrome silver.



Cut the inner bead from the drag slick and sand the mold ridge to give it a more realistic look.



Split the Triumph fender down the middle and add a one-fourth inch wide strip of .050 inch styrene to widen it. By boiling the fender first, you can shape it to the diameter of the slick.

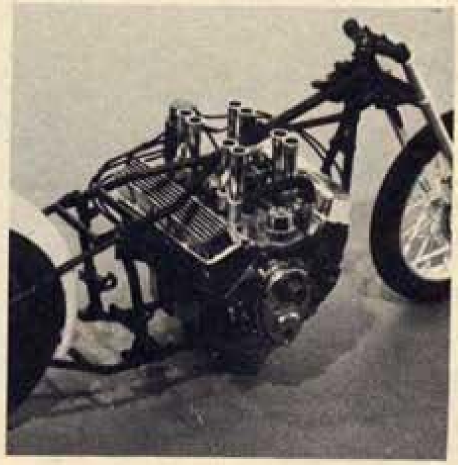


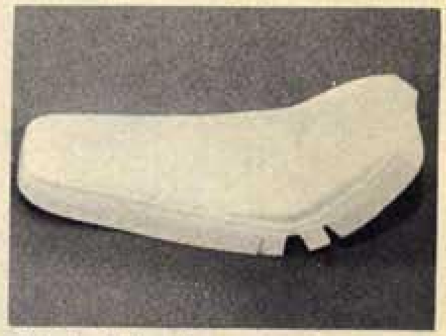
Cut the Triumph fork stem in half. Add glue to the cut surfaces and re-assemble inside the Harley frame. Avoid getting glue on the frame or the forks won't turn. Glue a piece of scrap plastic under the frame to use as a fork stop.





Assemble the forks and front wheel per kit instructions. Assemble the rear and check everything for a proper fit.

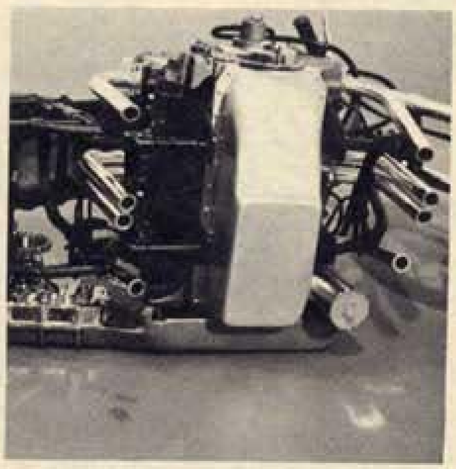




Slit the Triumph seat in the positions shown. Heat in boiling water and bend it to match the contour of the frame and fender. Fill the slits with body putty, sand, and paint flat black.



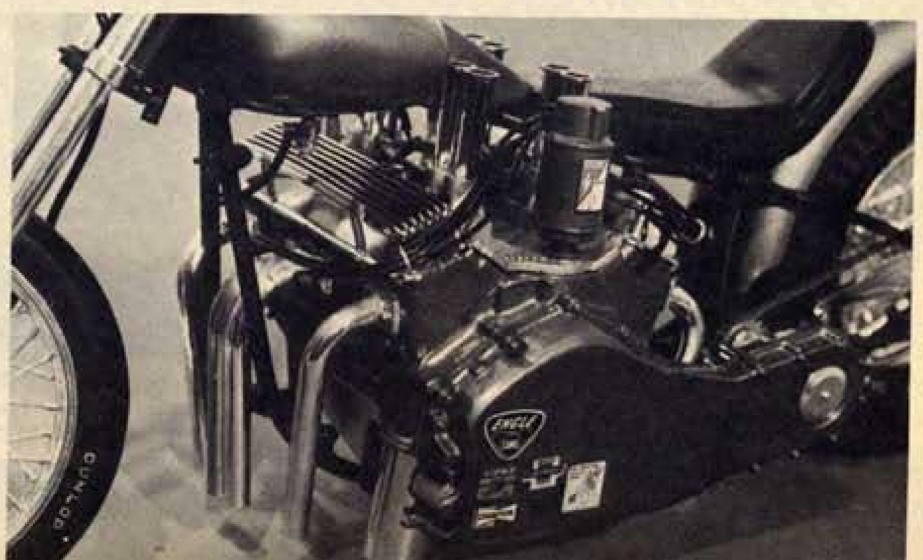
Separate the headers from their brackets. Bend the ends to a 90° angle after heating in warm water. All pipes should be the same length. Hollow the ends and paint flat black.





Notch the Triumph tank to clear the injectors. Add a lip to the rear of the tank to smooth out the gap between the seat and tank.





The official voice of HO racing

HOCCI World

It has been along time in coming, but here, at last, are the results of the second HOCCI mail-in event, held at Elwood Indiana, home of HOCCE, a recognized HOCCI group of enthusiasts led by HOCCI Regional Director Mr. Kim Shaw. Kim's group has proven to be one of the most progressive in the national H.O. scene. Lending a much needed helping hand doing the always-necessary proxy driving were eight of his best men—Mike Carmody, Larry Kelley, Bob Hurst, Ron Romig, Ron Shaw, Ken Thrawl, Ken Slayton, and Kim himself.

STOCK DIVISION—SPORTS
1. Carl Dreher, Ind. Chaparral
2. Carl Schoenman Ill. Chaparral

G.T.
1. Carl Dreher, Ind. Ford J
2. Carl Schoenman, Ill. Dino Ferrari
3. Barry Gray, Pa. Ford J
4. Art Walicki, Ill. Porsche

TRANS—AM
1. Bruce Hunton, N.Y. Camaro
2. Barry Gray, Pa. Mustang
Bruce Rosenberg, Ore. Camaro

NASCAR STOCKER
1. Bruce Rosenberg, Ore. Buick
2. Carl Dreher, Ind. Ford Galaxie
3. Bruce Hunton, N.Y. Ford Galaxie
4. Barry Gray, Pa. Ford Galaxie

MODIFIED DIVISION
SPORTS
1. Paul Kocher, N.Y. Ferrari
2. Carl Dreher, Ind. Lola
3. Walter Cloud, Kansas Mercedes 300slr
4. Bruce Rosenberg, Ore. Maserati

G.T.
1. Richard Harrison, La. Mangusta
2. Carl Dreher, Ind. Porsche Carrera
3. Art Walicki. Ill. Ferrari P/4
4. Orville Banasik, N.D. Chaparral 2F

TRANS—AM
1. Carl Dreher, Ind. Camaro
2. John Merilatt, Tex. Cougar
3. Kevin Moller, Tex. Firebird
4. Walter Cloud, Kansas Mustang

NASCAR STOCKER
1. Dennis Elliott, Tex. Charger
2. Bert Haas, N.Y. Toronado
3. Carl Dreher, Ind. Ford Galaxie
4. Barry Gray, Pa. Charger

GRAN PRIX
1. Dennis Elliott, Tex. STP Turbine
2. Bruce Rosenberg, Ore. Rosetta/scratch
3. James Darby, Calif. STP Turbine
4. John Merilatt, Tex. STP Turbine

So, after the first two events of this three event series, the HOCCI national point standing overall shapes up like this.

		STOCK	MOD.	OVERALL
Carl Dreher	Ind.	38	42	80
Bruce Rosenberg	Ore.	21	12	33
Barry Gray	Pa.	24	5	29
Bruce Hunton	N.Y.	22		22
Carl Schoenman	Ill.	21		21
Art Walicki	Ill.	5	13	18
John Merilatt	Tex.		18	18
Dennis Elliott	Tex.		16	16
Bert Haas	N.Y.		15	15
Greg Pomeroy	Tex.		14	14
Walter Cloud	Kan.		11	11
Kim Shaw	Ind.		8	8
Eric Platt	N.Y.		8	8
John Jolly	Wash. D.C.		8	8
Richard Harrison	La.		8	8
Paul Kocher	N.Y.		8	8
Lee Freitag	Ore.	8		8
Jay Scott	N.Y.	8		8
Larry Kershner	Ohio		7	7
Kevin Moller	Tex.		6	6
James T. Darby	Calif.		6	6
Robert Wrenn	Va.		6	6
Orville Banasik	N.D.		5	5

STOCK MOD. OVERALL

By the time you read this column, the December mail-in in New Jersey will have been run off, and the new National Champion determined. But, with the new season just around the corner, it isn't too late to pass on some very important information to all our HOCCI members who have entered the races just held, and those about to be run.

We didn't think we would have to continue reminding our members of these facts but due to some letters we continue to receive it seems obvious we must. Cars entered in the events must be sent with entrance fee, $1.00 per car, owner's name and address, and the class the car is to be raced in, all noted on a slip of paper. They must be sent to HOCCI Headquarters in New York. Then, we send them on in one large crate to the race site from which, after the event, they are returned directly to the owners.

We have tried in the past to wait as long as possible before shipping the cars to the race, waiting for late entrants. And for this reason, we were late in getting the cars to one race site. This caused confusion and upset everyone. As an entrant, your deadline for getting a car here (New York) is two weeks prior to the race date. Do not, we repeat, DO NOT wait for the last two weeks before mailing the cars here. We have received complaints from entrants that sent their cars only four days before the race was to be run. This does not allow enough time for the cars to get to New York and then out to the race.

Unless we receive a written request with the car that it is to be returned if late, we will hold it over for the next event. And again, we do not keep anyone's car for an entire race season; it is returned to the owner after each event. Please, we, and our race directors, are enthusiasts, like yourselves. But, we cannot take the time to repair (and often rebuild) a car that arrives broken, due to careless packing on the part of the owner. We suggest you first wrap the car carefully in tissue, then place it in a sturdy cardboard box at least 2" bigger all around, that has been filled with loosley wrinkled newspaper. A car placed in a close fitting plastic box, then wrapped in paper, will just not make it.

The next item of importance is an apology to our members, who through no fault of their own, experienced a delay in obtaining their membership packet. Without going into details we will say we have experienced a problem with our "former" printer that could be made into a book. A membership committee meeting was held to determine what could be done to make up for this trouble, and it has been decided that those memberships received from July of 1968 till November 1968 will be recorded as being in effect from January 1969 for the entire year till December 31, 1969. To make it even simpler for you, if your membership card is the original yellow with red lettering, your membership dues for 1969 is due right now. If you are in possession of a new white and blue card, your dues are paid for 1969.

The last item, and we hear a sigh of relief from our membership committee, is that membership numbers are no longer in use. The number system instituted by HOCCI's founder has been nothing but a source of trouble for us since so many of our members continue even now to write to us and not include the number. The task of locating a member's file, and replying, became impossible. So please at least sign your name. You'll be helping us to serve you better if we don't have to go through over 2000 cards trying to match names and addresses. Our new system is alphabetical and should end most of the problems. Now, go out and sign up another member, and start a charter group of your own!

THE COMPLETE MODEL CAR LUBE JOB

By Bob Schleicher

Here's what to use and where to use it

We all know that the family car needs frequent and periodic trips to the service station for oil changes and lubrication. This service is so important to trouble-free performance that most new car guarantees are cancelled if the car does not receive proper lubrication every few thousand miles.

Your model cars have bearings and gears similar to those on a full-size car. Proper lubrication is even more important to a model since most of the axles and shafts are turning four or five times faster than are those on a full-size car.

Only four types of lubricant are necessary for a model: light machine oil, medium grease, spray cleaner and lube, and, in some cases, valve oil for the motor brushes. Proper applicators, preferably with needlepoint tubes or hypodermic style syringes, are the best. You will also need some lacquer thinner or alcohol, pipe cleaners and a rag to wipe away old oil and grime.

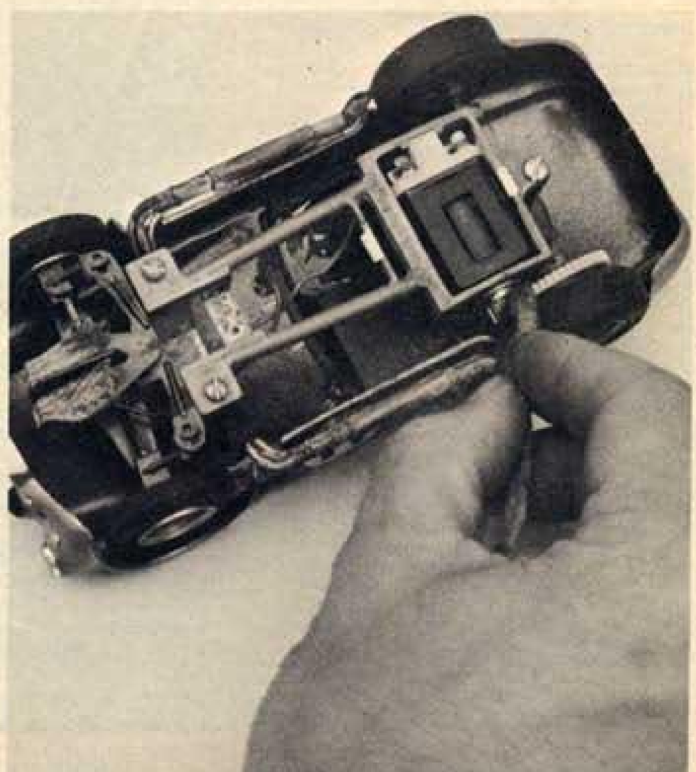
The pictures show you how and the chart gives the proper lube, so grab that tired running old model racer, clean out the goop and give it a shot of new life . . . a lube job.



High speed racing cars require a variety of specialized lubricants, and model cars are no exception. Shown here are (front row) Champion gear lube, in hypodermic applicator, Russkit oil, X-Acto oil; (back row) empty eye dropper bottle for cleaning fluid, Simco Speed Spray cleaner, IBM typewriter oil, 3 in 1 oil, Valve oil, and Tri-Pak gun oil. Each has its special application.



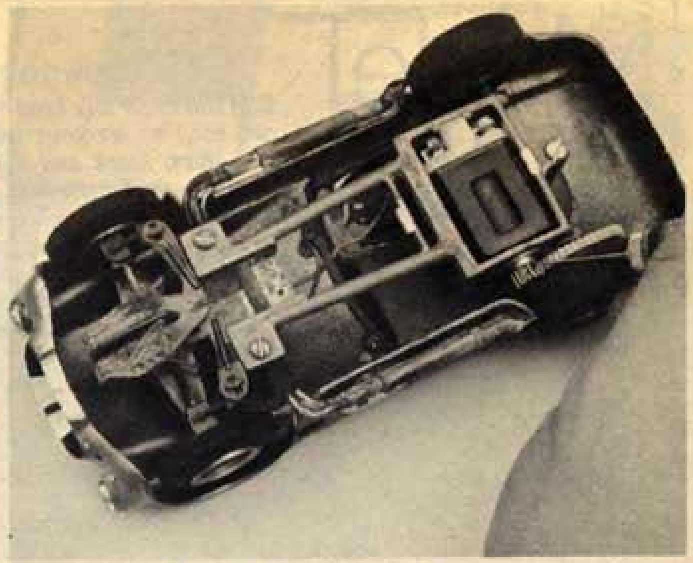
First use lacquer thinner or wood alcohol to wash oil, grease and grime from all bearings and gears.



A bent pipe cleaner can be used to wipe away excess dirt, oil and solvents.



Oil motor bearing with light machine oil such as 3-in-1, Tri-Pak, X-Acto, IBM, Russkit, etc.



Be sure to get a drop of oil behind the pinion gear so it will flow into the motor bearing.



Medium grade grease such as Lubri-Plate, Atlas or Pactra, or Champion should be dabbed on each gear tooth. Spin the gears a couple of times and wipe off excess.



Put a drop of light machine oil on each front wheel bearing. This 427 Cobra has the Cox steering front wheels so their pivot or kingpins should be oiled also.



Pickup pivot and drop arm pivot (if car has a drop pickup) are last points to be oiled.



Spray the pickup braid with an electrical contact cleaner such as Simco, Pactra or Testor's. Brush away any loosened dirt with an old tooth-brush.

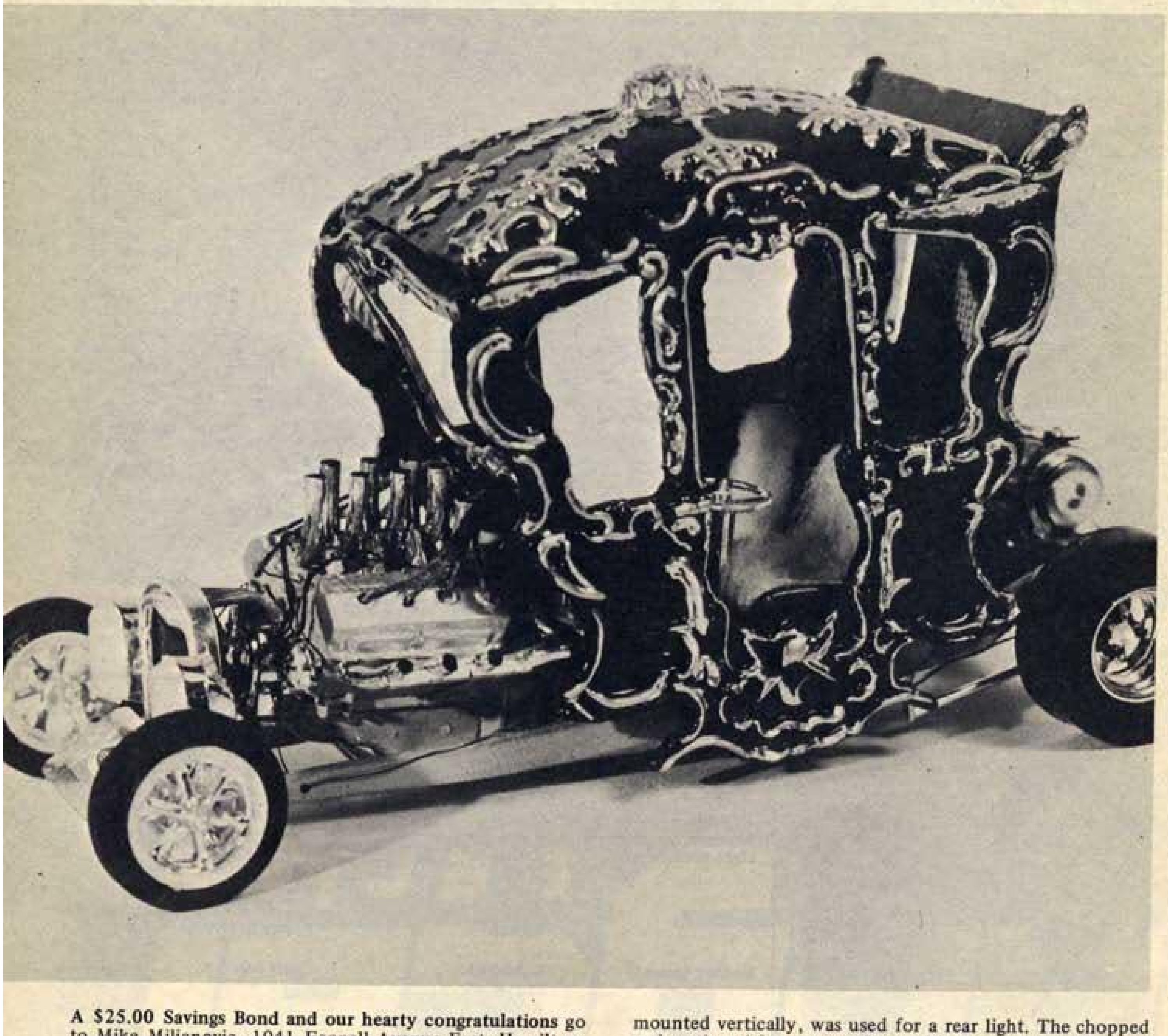
MODEL CAR LUBE CHART

Type of Lubricant	Brands	Application
Light machine oil	Champion IBM 3 in 1 X-Acto Russkit	1. Motor bearings 2. Front & rear wheel & axle bearings 3. Pickup pivots
Medium grease	Lubri-Plate Champion Atlas Pactra	Gears only
Spray cleaner (with or without light oil additive)	Simco Testors Pactra	Pickup Brushes ONLY (do NOT use on motor)
Trombone valve oil	Horton (from Music Stores)	Motor Brushes

Model of the Month

HOW TO ENTER OUR CONTEST

You can enter any kind of a model you like (train, plane, boat, car, etc.) so let your imagination run wild! Just send one or two sharp black and white (no color please, we can't use it) photographs of the model, and a brief description of what you have done to it. Remember, other readers are interested in what you have done to your model, so be specific when mentioning the parts that you used. Send to: Editor, MCS, 171 Barrington Place, West Los Angeles, California 90049. Sorry, we can't return photos.



A $25.00 Savings Bond and our hearty congratulations go to Mike Miljanovic, 1041 Fennell Avenue East, Hamilton, Ontario, Canada, for this sensational "coach rod." The coach was an old toy brought over from England; it originally had four horses pulling it, but now the horsepower ranges around 500, thanks to the big Chrysler Hemi from the Monogram "Sizzler" kit. A balsa wood spoiler was added to the top of the coach. A one-eighth inch window slit was cut out in the rear. One Dodge Monaco taillight, mounted vertically, was used for a rear light. The chopped and sectioned frame came from a '34 Ford pickup. Tires are from MPC's "Fever Bee." The grille and shell and radiator came from a '29 Ford, while the headlights came from a '65 GTO. The interior is fully upholstered. Gas, clutch, and brake pedals are included along with a wired tach, oil, and water gauges. The body is finished off in candy blue lacquer with silver engravings. *Wild and original, Mike. Congratulations!*



Another Mike, this time Mike Powers of Frenchburg, Kentucky, put together this fine funny car. The shortened chassis is from MPC's "Unswitchable" funny car; the body is from AMT's Falcon funny car. A wired 421 Pontiac was set back in the chassis. The upholstered interior was made from cardboard. The driver sits in a bucket seat from AMT's '66 Corvette. A roll bar and fire extinguisher protects him. Front wheels are from AMT's '37 Chevy; the front tires are from AMT's '40 Willys. Back wheels are from MPC's "Mr. Unswitchable" and back tires from AMT's '67 Mustang. The body is silver and lemon lime metalflake, then hand lettered. All together, ten kits were used. *Neat, Mike.*

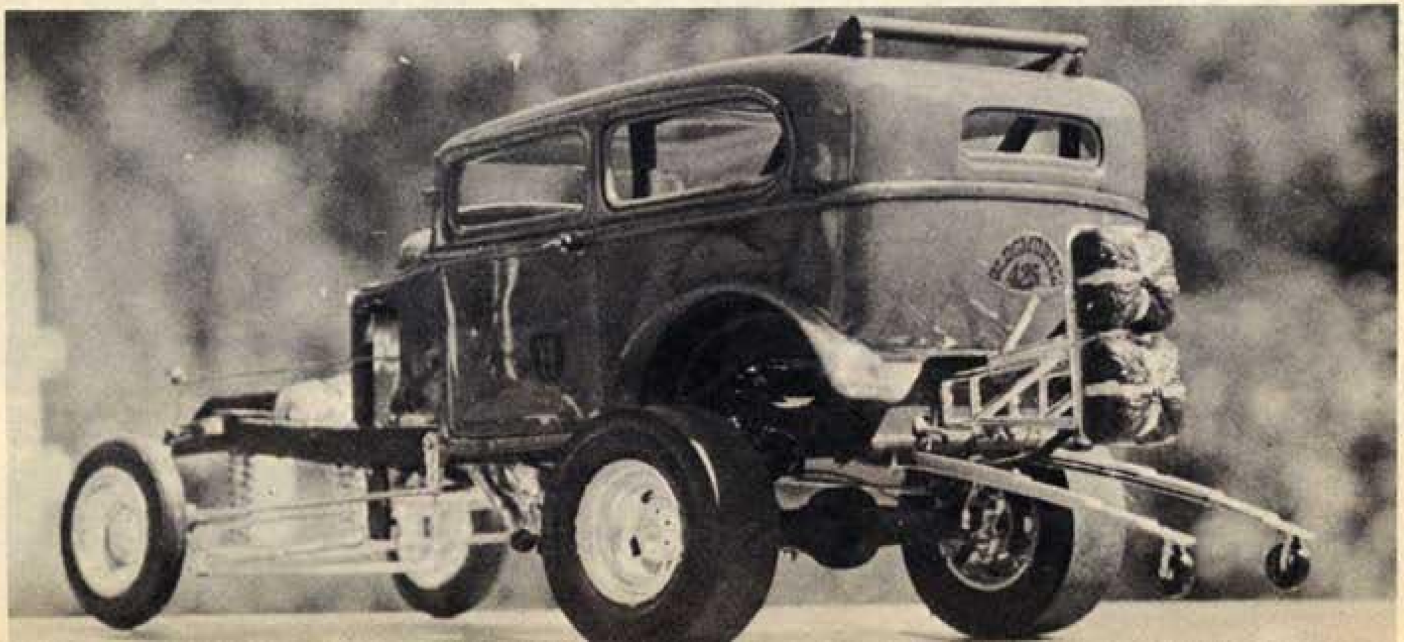


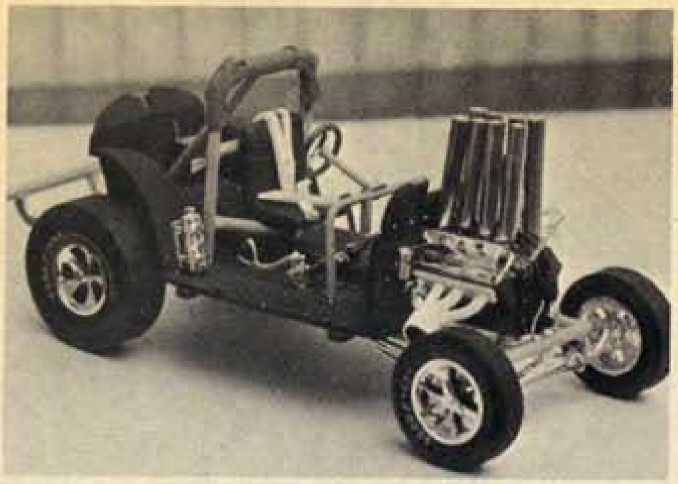
This unusual model was entered by Don Gagnon of Lowell, Mass. Based on a '62 Chevy Apache truck, Don converted it to a five ton wrecker. The booms are made of tubing, paperclips, toothpicks, small washers, cardboard, two small gears from a gear game, plastic, and fishing line. The frame was scratched from tubing. AMT's "Van Lines" tires and wheels were used. The rear body and pushboard were made of plastic wall tile. Pushboard and sling are rubber-faced using bike tubing. The winch is made from an oil pan, tubing, small washers, and fishing line. Equipment includes: front mounted winch, motor driven starter, generator, motor from the "Drag-u-la," block and tackle, two-way radio, tool box, gas can, beacon light (from an acorn nut), and a tow chain. *Pretty wild, Don!*



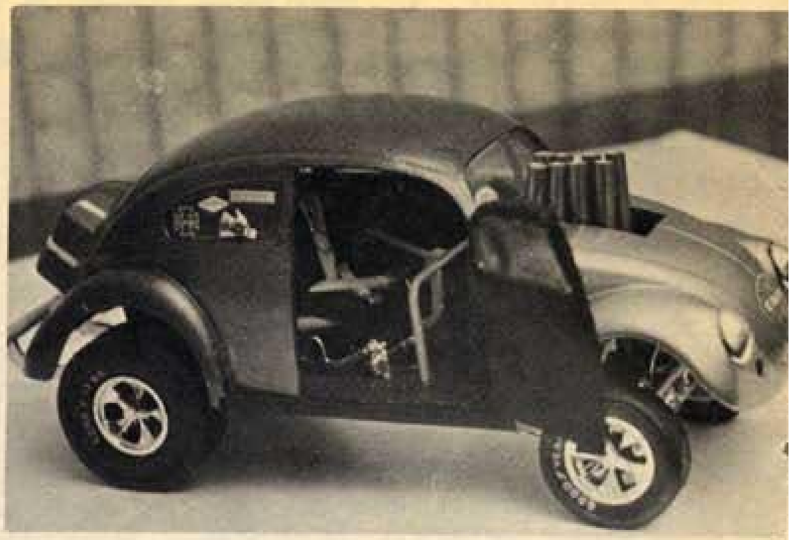
Uh, if we hadn't seen it, we wouldn't have believed it! This is a "Uni-Hemi Cycle" built by Randy Riley, of Simsbury, Conn. The 'Wynn's Jammer" kit provided many of the parts such as the Dodge engine, in-and-out transmission, and two Halibrand wheels joined together to make one. The throttle, on the left side of the seat, works, and has a small return spring. The injector scoop was made from plastic. Spark plugs are wired with plastic fishing line. The engine is fully wired. The seat, on top of the blower, was made from the parts box and equipped with seat belts and shoulder harnesses. The seat belts were made from cloth strips and the shoulder harness is plastic. The wired gas tank was mounted on a piece of card stock and put onto the back of the seat. The roll bar was made of copper tubing, with the wired chute attached to it, as was the fire extinguisher. Headers were made from bell wire, as was the dipstick, but of a smaller gauge. The single 20.00 x 15" Firestock slick is driven by a belt covered by a scratch built screen. Photos were taken by Mr. Stanford Ayres. It's a wild sight, Randy! *Volunteer drivers form a line at the left!*

Joe Feather hails from Jackson, Michigan. He made our contest this month with this beautiful rod, based on Revell's Orange Crate. The frame is a '29 Ford pickup. The roll cage is constructed from plastic pick-up stocks. Everything is completely wired including throttle linkage, electrical system (from battery to ground cable), fuel system, brake lines, cooling system, and double chutes on the rear. Candy apple red paint was put on over orange. Pinstriping and lettering was done in black India ink. The airfoil on the front is movable from a lever in the cockpit. *Handsome, Joe.*



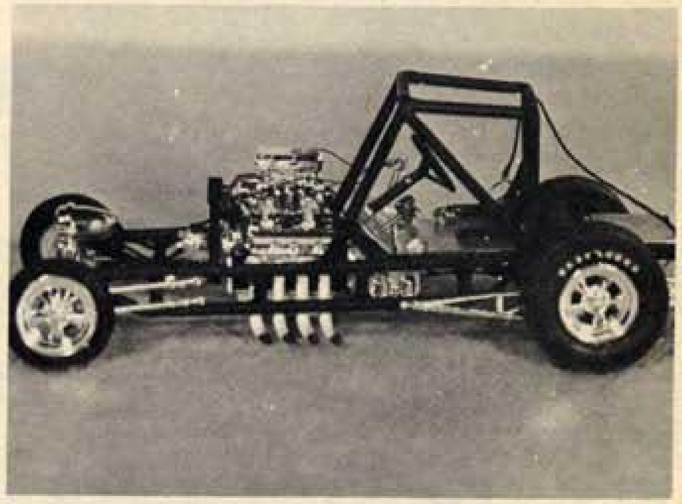


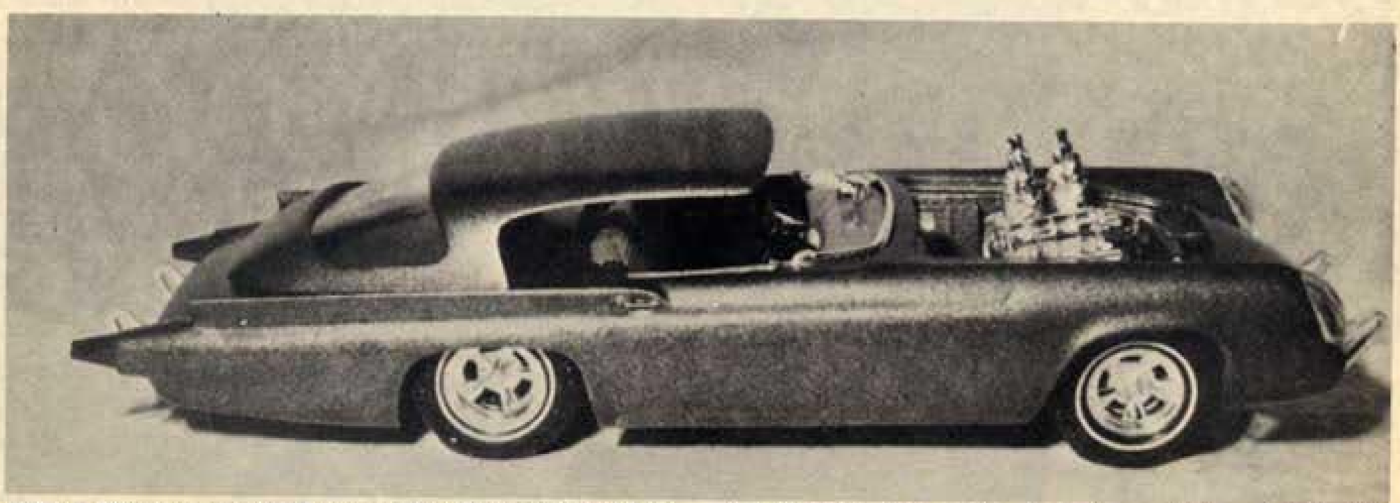
Russell Field sends these photos of his IMC Volkswagon from Eastleigh, Hampshire, England. Russ puttied the hood and rear deck lid shut, lengthened the frame one-quarter of an inch, and added a "Drag-u-la" axle. Aluminum tubing was used for spark plugs, headers, dipstick, and injectors. The Hemi engine is fully wired with fuel lines, spark plug wires, and battery. The body was painted with Pactra Base Gold, AMT Orchid Silk, fading into AMT Ultra-Violet, fading into Pactra Lightning Purple! All tube work is flat yellow with the floor pan, etc., done in flat black. The engine is painted flat red. *Ruddy good, Russ!*



The "Dirty Birdie" was built by Scott Guthrie, of Hillsboro, Ohio. It is a '68 Dodge Charger with a fully wired engine and a pair of real "stopping" chutes. Seven coats of Testor Surfite Yellow gave the car its gleaming finish. That nifty frame was made from pick-up sticks. The Charger is ready to go racing with trailer and tow car. *A deluxe racing rig, indeed, Scott.*







William Fleming sat around Rome, New York, building this custom. Originally a '57 T-Bird, Bill cut the original roof and windshield away and added a custom roof from a box of extra parts. Then he lengthened the body two inches to give it a more streamlined look and finished it off by channeling it a quarter-inch. The interior is fully painted and detailed. Seat belts, made from cloth and thin foil, were added. The lights were added from an old Revell custom lighting kit. An even dozen coats of silver base and a dozen coats of metalflake green topped with two coats of clear finished the model off. *A wild custom, Bill.*

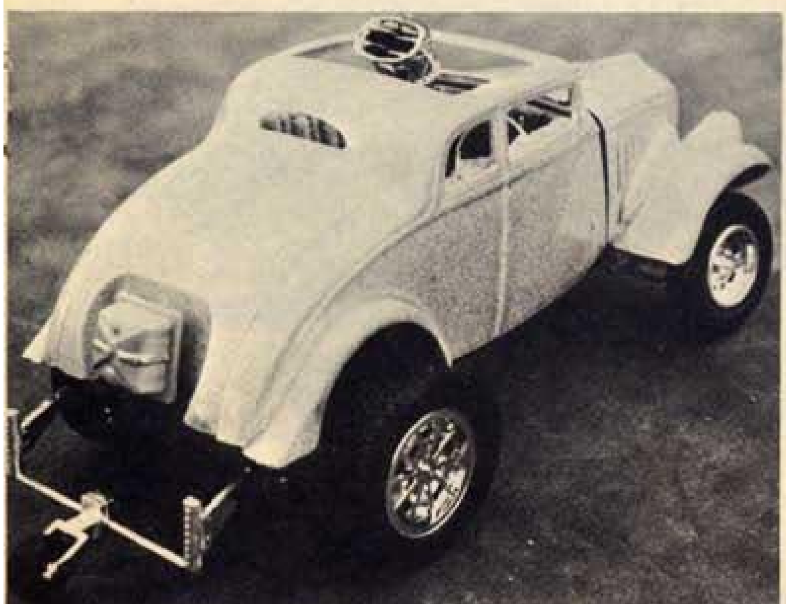


AMT's Chev II funny car kit seems to be very popular with customizers; it certainly was with Frank Cimba, of Johnstown, Pa. Frank set the wired engine back 1-½ inches in the chassis. He scratchbuilt the front suspension, spoiler, and wheelie casters. The interior sports an MPC "Charger" rollbar, a seat that is moved back, and a tach from AMT's El Camino kit. The funny car was painted with seven coats of Pactra Blazing Red, lettered with Auto World lettering and finished with two coats of AMT's clear. *A "classic" funny car, Frank.*



"The Gravedigger" was built by Rick O'Shenska, of St. Clairsville, Ohio, from a JoHan Cadillac hearse kit. It's powered by three double blown, wired, Chrysler mills taken from AMT's '53 Studebaker kit. Rich shortened the front of the car one-quarter inch. A piece of thread was run from the driver seat to the drag chute in back to take the place of a ripcord. Wheels from the casket stand that originally came with the Caddy kit were used as "wheelie" wheels. *A real "haulin' hearse" Rick.*

We're not sure if the world is ready for a turbine powered Willys coupe! Evidently Dick Habersin of Miami, Florida, thought so! Using AMT's '33 Willys coupe and MPC's Indy turbine car, he put together this gold metalflake blowtorch. With a fully wired 500 h.p. turbine to push it around, it should get over the road! The interior is finished with a deep blue carpet and gold corduroy lining. *Entering it at Indy next year, Dick?*



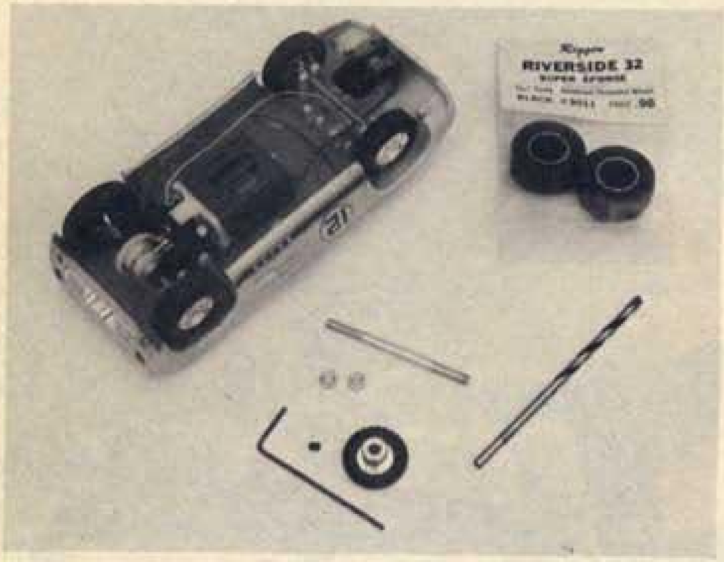


MINI-PRICED MODS FOR HOME SET CARS

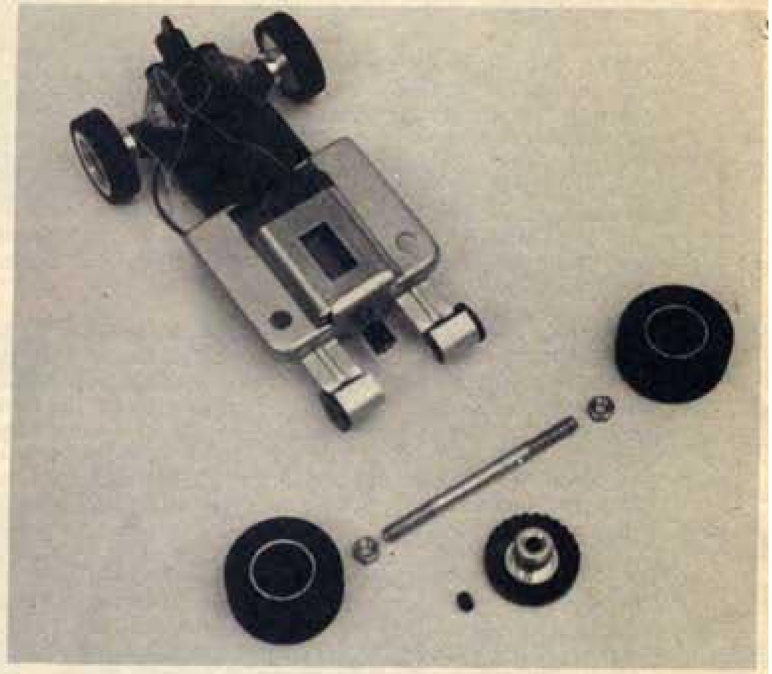
By Robert Schleicher

Improving the breed with replacement tires, wheels and gears will do the most to lower lap times with any home set car. Here's how to install them.

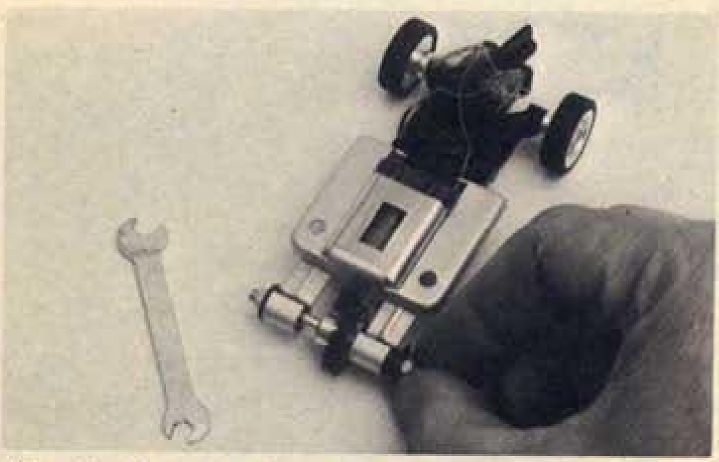
None of the current range of 1/32 scale ready-to-run cars, as furnished in the home raceway sets, are designed for simple gear and/or tire changes. These cars ARE designed to provide countless hours of trouble-free racing without danger of a gear or wheel working loose or out of adjustment. Both gears and wheels are pressed onto splined axles with built-in spacers on each to keep them in proper adjustment. The accessory wheels and gears available at your local hobby shop or commercial race track are all designed for quick replacement BUT it is up to the builder to adjust clearances and keep them adjusted.



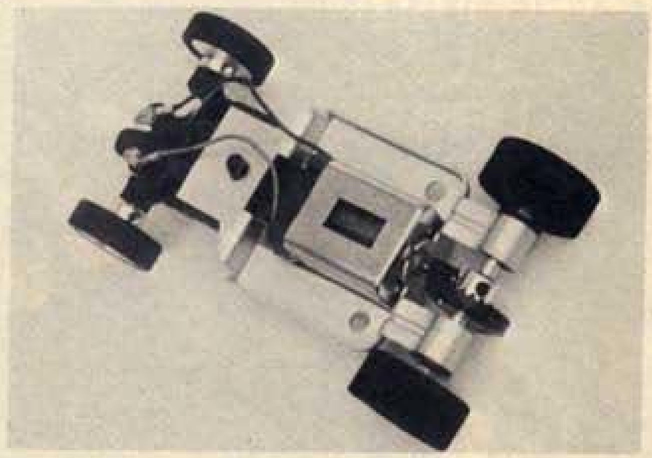
Either "closed cell" foam or silicone rear tires will improve the traction of any home set car. Wheels, tires, axle with lock nuts and spacer washers, and crown gear will have to be replaced. The bearing holes in some brands, like this MRC/Scalextric car, must be enlarged with a 1/8" drill.



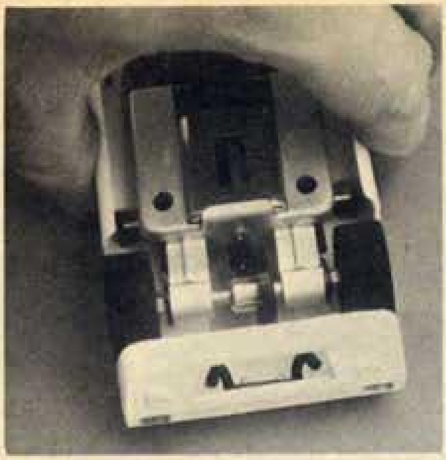
Use a gear puller or a screwdriver and diagonal cutters to pry one wheel, the gear, and axle from the car. New components assemble in this order.



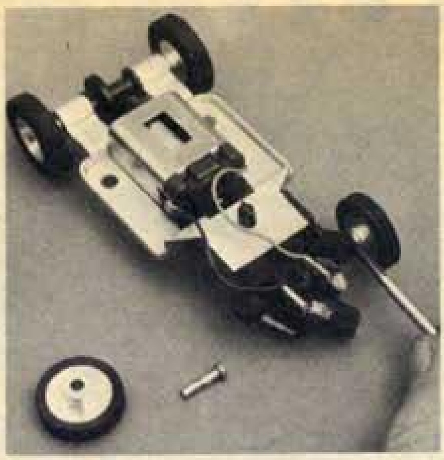
Slip axle and gear into bearings, center axle in car, and thread on lock nuts. If the car's body is wide enough, the new rear tires and wheels can be spaced away from the chassis with 1/8" spacer washers.



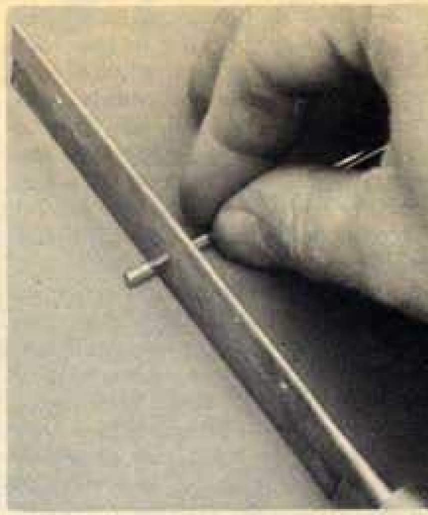
Tighten the lock nuts against the backs of the wheels before tightening the gear's set screw. Allow about a paper thickness of clearance between one lock nut and the frame. Adjust gear mesh.



The Riggen "closed cell" tires and wheels increase the track width on this Strombecker Ford "J" car so that edges of tires are all the way out to the outside edges of the body. This wider track width will also help to increase speeds through the corners.



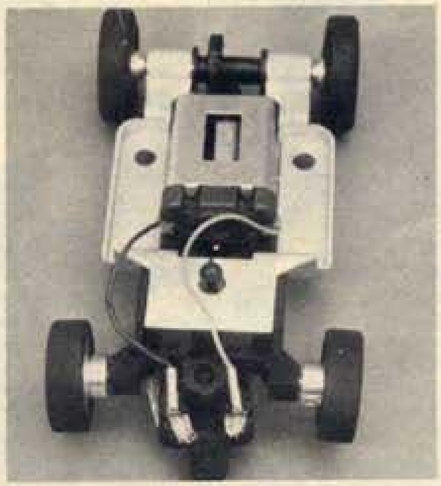
The Stombecker ready-to-run cars feature independently rotating front wheels that cannot easily be spaced out from frame. To replace front wheels with Riggen's #AA-01, pry the stock wheels off chassis.



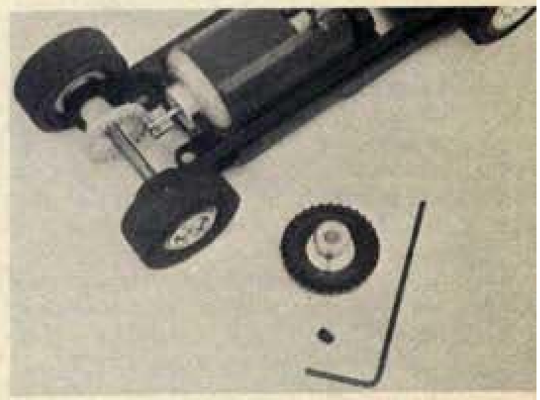
Cut a 3/16 inch length of 1/8 inch diameter brass tubing to be used as a bushing to reduce size of the hole in Riggen wheel to that of the stock Strombecker wheel.



Force the short lenth of brass tubing into the rear of the Riggen wheel by tapping with light hammer blows.



New front wheels add about ¼ inch to the track width of the Strombecker car to allow faster cornering with less tendency for the car to roll over.

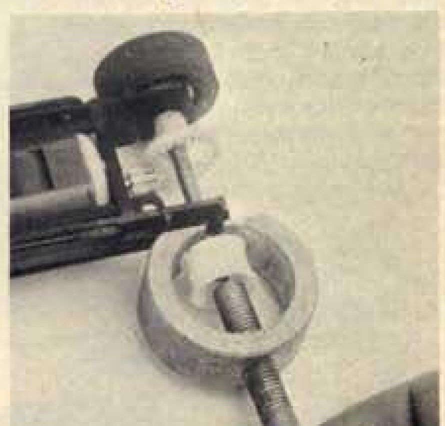


For maximum performance on a particular home raceway track, you will want to try alternate gear ratios. Accessory crown gears are available with either more or less teeth than the stock gear, but they are not "press-on" like the stock gear.



To remove the rear wheels and crown gear the wheels must be pried off the axle. On some brands of car you can merely lever the wheels off with the tip of a screwdriver until the tips of a pair of diagonal cutters will wedge in to finish prying off the wheel.





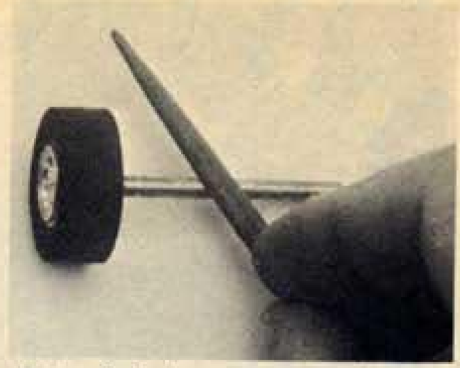
To prevent damage to the wheel it is best to use a gear puller to pull the wheels from the axle. Your local raceway center should have several brands in stock. Be sure the one you buy will clear both the wheel and the axle when used as shown

It is possible to change the crown gear on the axle of any of the 1/32 scale ready-to-run cars without replacing either axle or wheels with accessory items, but you will have to use extreme care in disassembly and assembly of the stock rear axle and wheels.

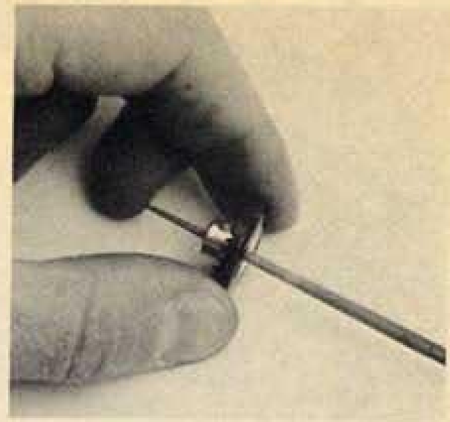
If you desire rear tires with better traction than those furnished on the car we recommend that you replace the rear wheels and the rear axle as well. The best tires for home racing are either the "closed cell" foam tires or the silicone rubber tires. Even where these tires are offered less wheels, you are better off to buy a pair of wheels with the tires mounted. It is next to impossible to mount either a "closed cell" foam tire or a silicone tire on the wheels furnished with the home set cars because of the difficulty in sanding or cutting the tire to roll perfectly true. The new wheels, crown gear, and axle will only cost a few dollars, and they're worth it.

The pinion gear on the motor can be replaced to alter the gear. You will have to move the crown gear to obtain proper gear mesh with the smaller pinion gear. None of the home set cars will benefit from fitting a larger pinion gear (one with more teeth than the stock pinion), so the respaced crown gear can be held in mesh by inserting one or more thin metal axle spacer washers between the back of the gear and the inside of the frame.

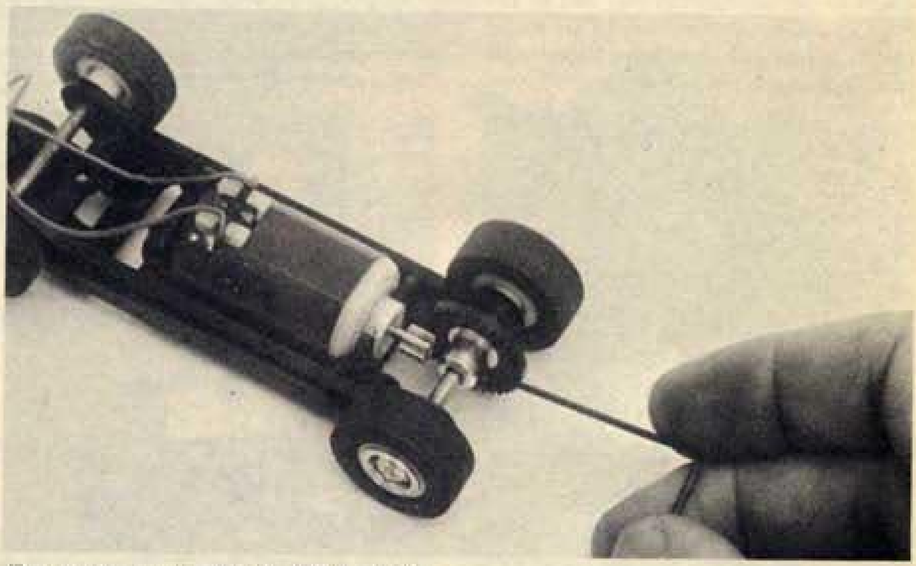
Most of the Strombecker cars will accept much wider front wheel spacing. The pins that retain the front wheels on these cars are, however, too short to allow the use of spacer washers between the frame and the wheels. The Riggen #AA–01 set screw front wheels and tires with 1/8" brass tube bushings automatically increase the front track width and provide a truer running wheel with a hard rubber tire. The low-friction tires and the increased track width will allow any of the Strombecker home set cars to corner faster.



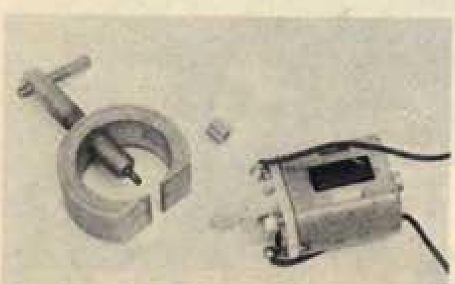
Most of the home set car axles have one or more serrations to keep the stock crown gear from slipping. Every trace of these serrations must be filed from the center and ONE end of the axle.



A jeweler's needle file can be rotated inside the gear to slightly enlarge its hole IF the gear will not slip over the smoothed off rear axle.



The backs of the wheels will keep the gear in alignment on most home set cars if they are pressed on carefully to allow only a paper-thickness of clearance between the backs of the wheels and the chassis. If necessary, 1/8" axle spacer washers can be installed between the crown gear and frame. New crown gear is held onto the axle with a set screw. The wheel you install on the smoothed-off end of the axle will have to be epoxied in place.



The gear puller will have to be used to replace the pinion gear on the motor. If you are experimenting with gear ratios try a pinion gear with one less tooth than that furnished on the motor.



The gear puller grips the back of the gear while you turn the screw to force the motor shaft out of the pinion gear.



The replacement pinion gear should be a press fit on the motor shaft. Place the opposite end of the motor on a vise or a scrap of thick metal while you tap the pinion gear onto the motor shaft. Use many light blows with the hammer.

STOCKERS AT PARMA

Here's the way the big brutes did it at the "Parmatex 500"

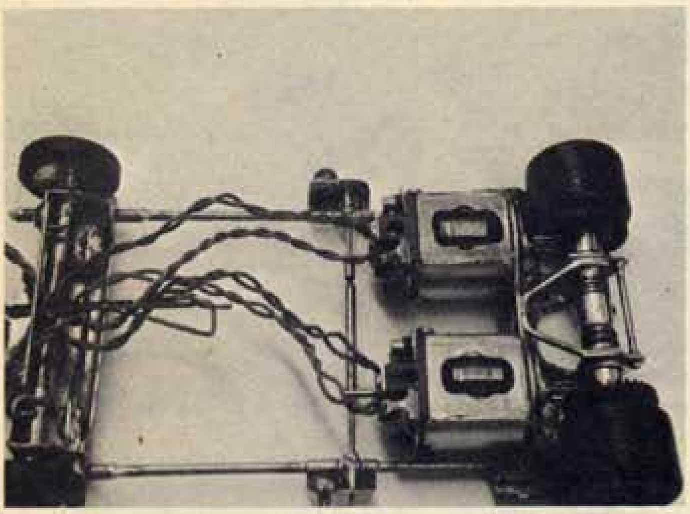
The First Annual Parmatex Late Model Invitational received entries from 28 late model pilots from all over the eastern half of the U.S.A.

The feature race was a torrid affair, won by Tom Tucker. Bob Wargo, second place winner, had to be taken to a hospital after the race for oxygen and observation! The earlier part of the race was a runaway by Jerry Mrlik until the 50th lap when he was involved in a four car pile up. Jerry then spent 85 laps in the pits making repairs.

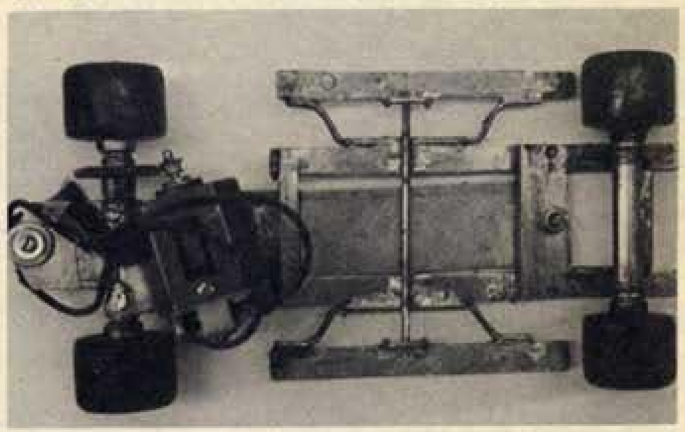
The "Permatex 500" promises to be one of the most exciting races in the country in the future.

LOCATION	SPONSORED BY		
PARMA MODEL RACEWAYS 5421 Pearl Road Cleveland, Ohio 44129	The Forest City Stock Car Association 24510 Clareshire—Unit E North Olmsted, Ohio 44070		
RESULTS			
FEATURE RACE—500 LAPS	HOME	CAR	LAPS
1. Tom Tucker	Boston, Mass.	'66 Olds	500
2. Bob Wargo	Cleveland, Ohio	'66 Olds	497
3. Sher. Canterberry	Cleveland, Ohio	'68 Dodge	481
SEMI FEATURE—125 LAPS			
1. Fred Frese	Lansing, Mich.	'68 Amb.	125
2. Sam Davis	Cleveland, Ohio	'68 Linc.	123
3. Bob Brown	Cleveland, Ohio	'63 Ford	118
CONSOLATION—75 LAPS			
1. Tom Grigg	Cincinnati, Ohio	'66 Ford	75
2. Jim Moore	Walton Hills, Ohio	'65 Ford	70
3. Mel Bryant	Cleveland, Ohio	'60 Pont.	70
CONCOURSE			
1. Ron Smith	N. Olmsted, Ohio	'64 Chevelle	
2. Tom Bartesko	Cincinnati, Ohio	'66 Ford	
3. Rich Savage	Parma Hgts, Ohio	'63 Fairlane	
QUALIFICATIONS			
1. Jerry Mrlek	Detroit, Mich.	'68 Olds	2.70 secs.
2. Bob Wargo	Cleveland, Ohio	'66 Olds	2.73 secs.
3. Jack Bassar	Eagle, Mich.	'66 Ply.	2.83 secs.

Top qualifier, Jerry Mrlek, from Detroit, Michigan, would have won the main, but broke a pickup. This twin-motored car holds the eight ounce record at 2.70 seconds. The 26-D armatures (in 16-D cases) turn in opposite directions to off-set torque reaction.



Another unusual chassis, by semi winner, Fred Frese. It's a front wheel drive 36-D. The bolt by the rear axle is the pivot point for flex.





Ron Smith's 1964 Chevelle won concours.

Tom Tucker's feature winner—a 1966 Olds.





Sammy Davis presents the first place trophy to Tom Tucker.

A CLASSIC FOR YOUR SHELF

The real Excalibur sells for over $9500. Here's how to build a 1/32 scale shelf model for peanuts.

The Excalibur is a familiar sight to residents in the Los Angeles, California and the Milwaukee, Wisconsin area. At a little over $9500 they're a bit too high priced for our budget so we decided to build a shelf model of one. The result was a great model, as exotic as the real one and a darn sight cheaper! Here's how.

By Ben Millspaugh





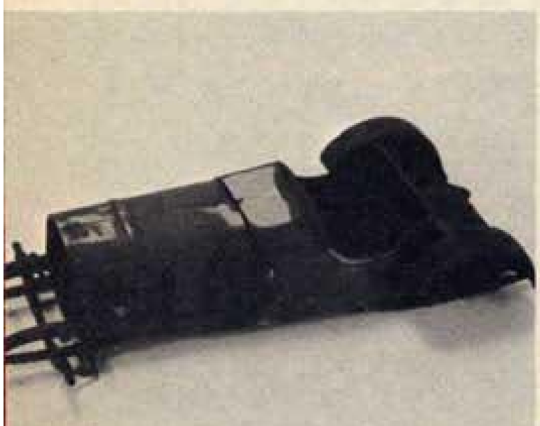
Our basic kit is the Pyro Mercedes–Benz SSK "Sportvagen" in 1/32nd scale. Since the Excalibur uses a Chevy engine, I also bought a 1/32nd scale Monogram '32 Ford Roadster for just engine parts. The little hot rod can then be used for spare parts or painting practice.



To modify the Mercedes to take the Chev engine, I had to cut out the old M-B engine from the underside of the chassis.



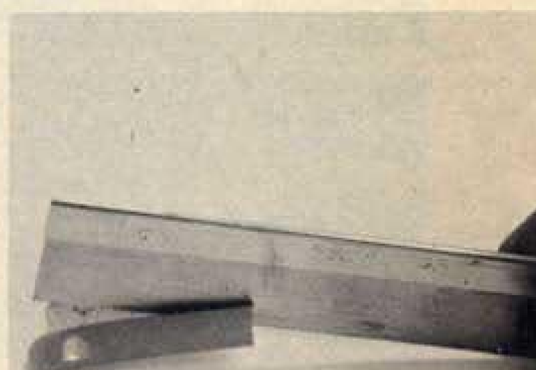
The little Chevy fits nicely if you work at it a little. Some scrap pieces of plastic help in fitting the block to the chassis.



After the engine is "set" (cemented and dryed), I installed the hood and body panels. Note that I bobbed the rear fenders and left off the running board. The cowl is filled with customizing putty, set to dry, and sanded smooth.



Using Martin Senour dark gray primer surfacer (found across the nation at all NAPA automotive parts dealers), I surfaced (primed) the entire car at this point. My thumb covers up the side panel which was sanded smooth to the frame. Take a look at finished photographs to see how smooth this must be to look right.



The front fenders are cut away from the running board and notched as shown.



Now a cross notch is made to complete the fender modification.



Here we can see how the fender is supposed to look after it is cut right and installed. Note that I bent the back side of the fender *down* gently so that its curve will more or less conform to the shape of the front wheels.



Here we can get the right curve that the fender has to be shaped.



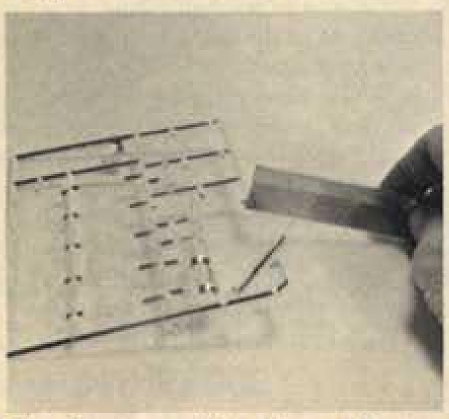
After both fenders are installed, I sprayed the car again with the primer surfacer to fill any imperfections and to give a super-surface for sanding. Once you have the right surface, after sanding with 3M #320 or #400 wet-or-dry sandpaper, you are ready to paint. Put your paint in warm tap water for at least five minutes before spraying. The color I used was AMT's Charcoal (burnt) which looks great on the Excalibur. The first coat of paint is a mist. Wait 30 minutes and then apply a heavier color coat.



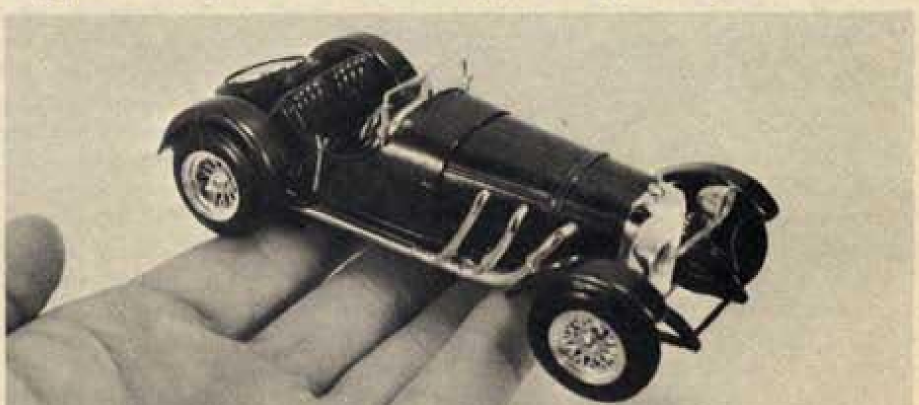
The final color coat is sprayed glossy. Let this set overnight before continuing your detailing work.



The M-B exhaust pipes are cemented to the long exhaust manifold pipe found in the kit. When these are beginning to set up, check and make sure that they fit the holes in the hood. After they are thoroughly set up (at least six hours) cut the remaining tailpipe off so that a chrome straight pipe can be put in its place.



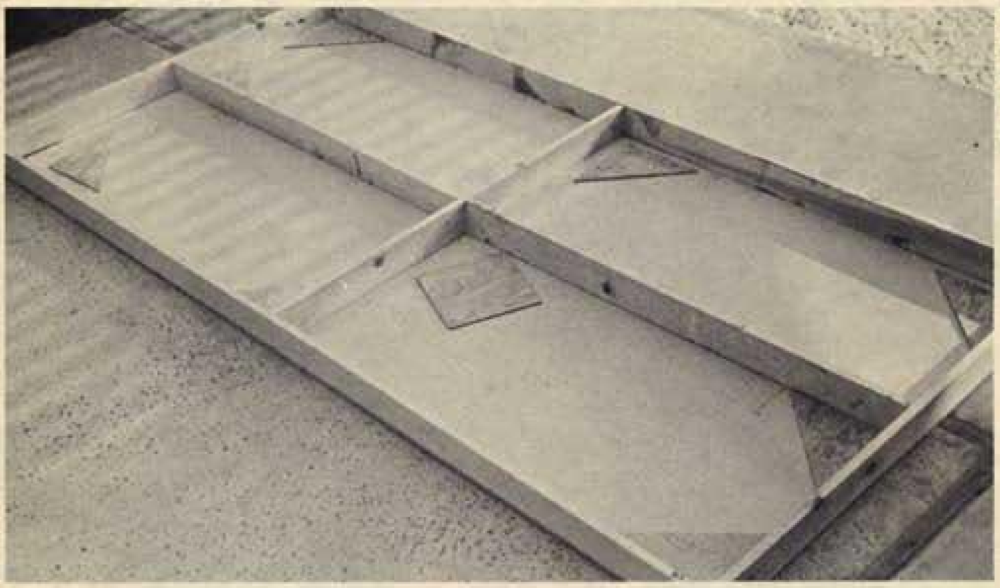
The chrome straight pipe can be cut from an old chrome tree or a piece of 1/8th inch chrome plated (nickel) tubing from a neighbor's slot racing box works well. This chrome piece is either cemented to the end of the exhaust stack manifold, or, in the case of the tubing, it will fit right over the manifold.



The seats, radiator, rear tire, wheels and tires from an old 1/25th scale kit. You can use the ones provided in the kit but they are way too large for this model. The tires are 1/25 also and they seem "right" for the model. Note how the exhaust pipe fits into the scene. Also, note that I used a contrasting red for the seats. This really sets off the Burnt Charcoal. The light housings and exhaust manifold are painted silver (Testors silver enamel brushed). A little polish and wax on the highlights and your Excalibur is done. NEAT!

THE ULTIMATE HO TRACK

And you can build it yourself—without a bank loan!



Place the 8' x 4' sheet of 3/8" particle board on a flat surface, such as a garage floor. Cut the 2" x 2" pieces, and the gussets, using the drawing as a guide.

By John Windsor

Well, I assume you're an HO enthusiast, or you wouldn't be reading this. That being the case, you're all ready aware of the fact that racing for any length of time on a conventional HO track (the plastic variety) can be a real pain in the neck! The electrical problems alone are enough to drive the average racer up a tree, in short order. Consider for a moment, the abuse that the average HO track takes. Usually the track is snapped together for an hour or two of racing, and it's placed on the living room rug or similar place, where it can pick up all the lint and dust in the house. It's shoved and moved during the heat of racing, and then it's torn apart and put away when the racing is over. Each time a section is assembled or disassembled, the connecting pins are bent a bit, until finally they're only touching here and there, or worse yet, broken off. Each section is a potential source of electrical trouble.

But electrical problems aren't my only gripe, when it comes to plastic track. Most of the layouts I've raced on (and it doesn't matter who manufactures them) are really "Mickey Mouse." That is to say, they're so full of tricky little "geewhizzaroos" like tilting track sections, etc., that more time is devoted to putting the cars back on the track after hitting one of these sections, than there is racing them.

I'm going to show you how to build a custom HO track that is inexpensive, compact, and an absolute delight to race on. I'm going to rout mine, but you can use the plastic track sections that you have, if you like. My design (watch for it in Part Two, next month–Ed.) is for a three lane layout, but there's plenty of room for a gigantic two lane, or for that matter, even a four lane track, if you want. The electrical problems aren't so great when you screw the track to a solid table, like the one you see here. That's because it doesn't get kicked around and taken apart.

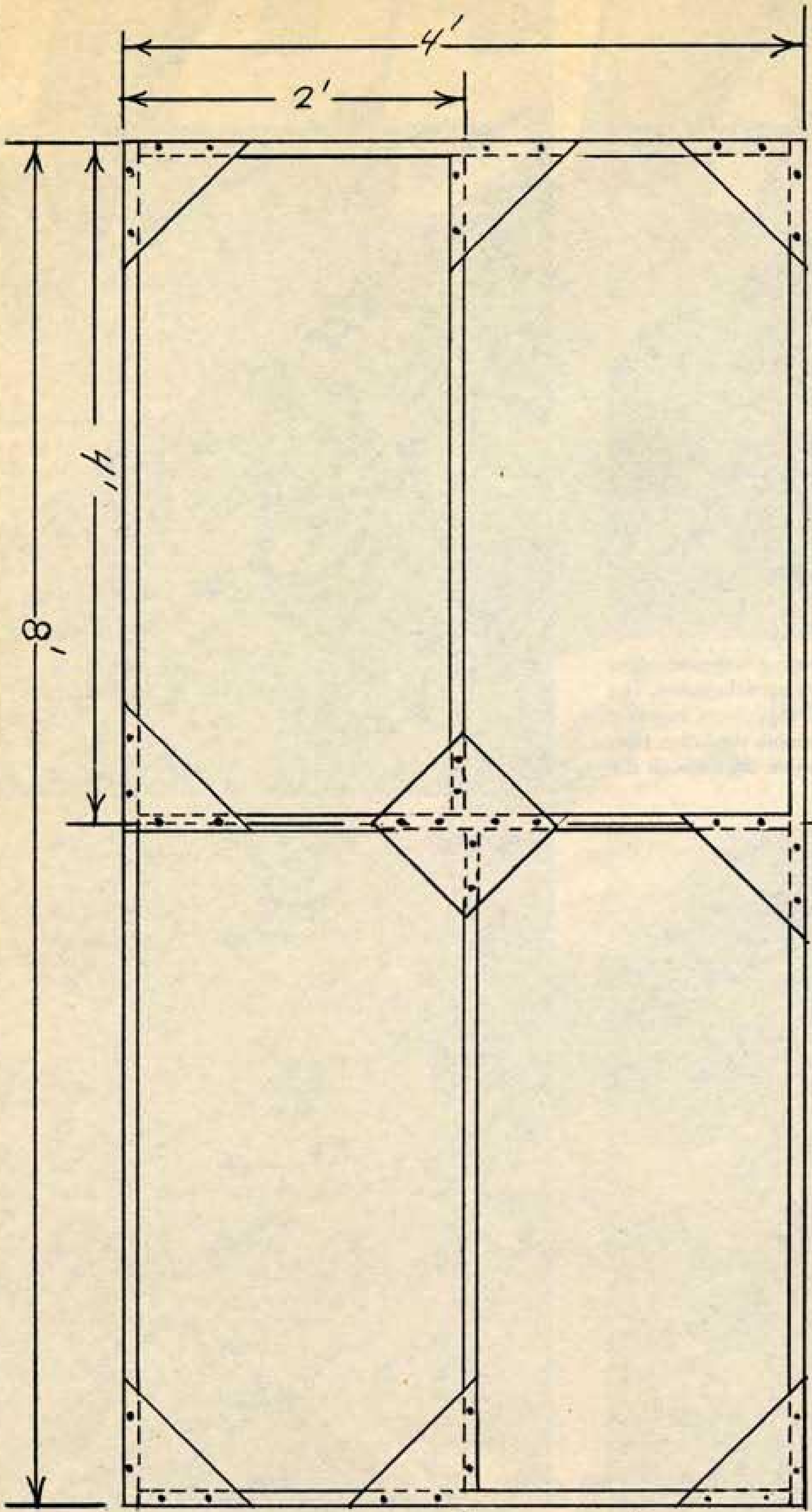
This table is designed to be hung on the wall of your garage or basement. When you're finished racing, you can fold it up against the wall, out of the way. Complete details for this step, in Part Two, next month.

This month, I'll show you how to build the table. It's easy and inexpensive, and will take you about one afternoon. Next month I'll show you how to transfer the track design to the track surface, rout it, and wire it. The following issue will be a complete course on applying scenery to this track. So, at the end of the second installment, you'll be racing. At the end of the third installment, you'll be racing on a layout with full scenery. Sound good? It IS good!

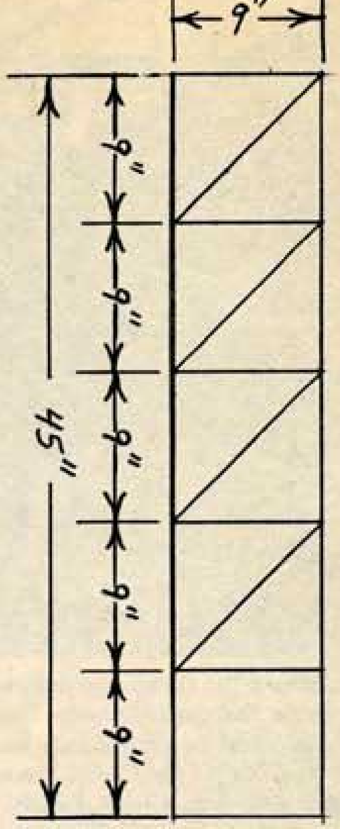
BILL OF MATERIALS

36'–1"x4" #2 pine (for frame pieces).
20 –1-3/4" x #6 flathead wood screws (to assemble frame).
75 –1" x #6 flathead wood screws (to attach gussets and particle board to frame).
1 –8' x 4' sheet of 3/8" particle board (for track surface).
1 –9" x 45" sheet of 1/4" plywood (to make gussets).

APPROXIMATE TOTAL COST FOR ALL MATERIALS–$9.00.

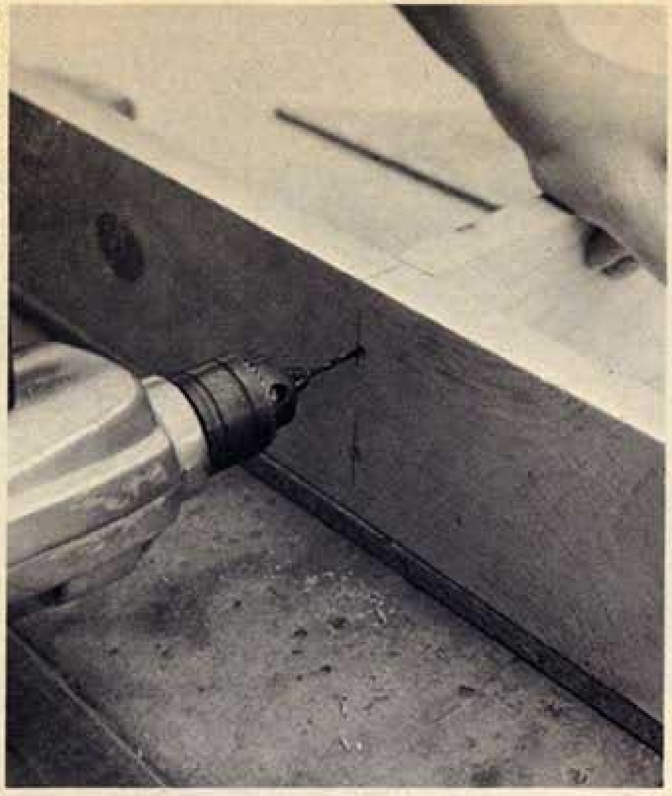


TOP VIEW OF FRAME
Turn frame over when finished to attach particle board.

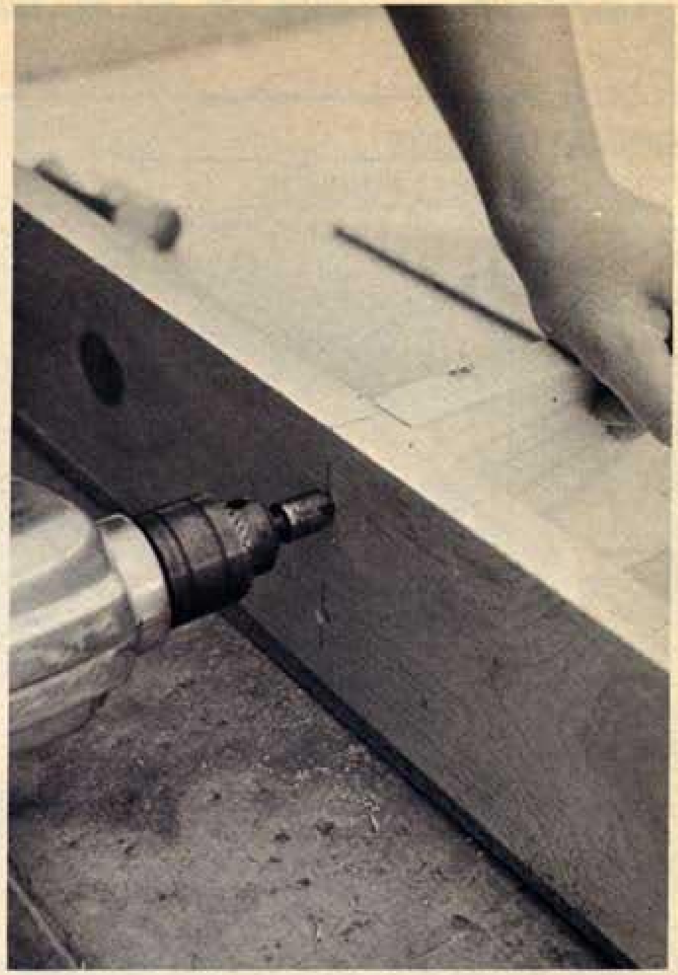


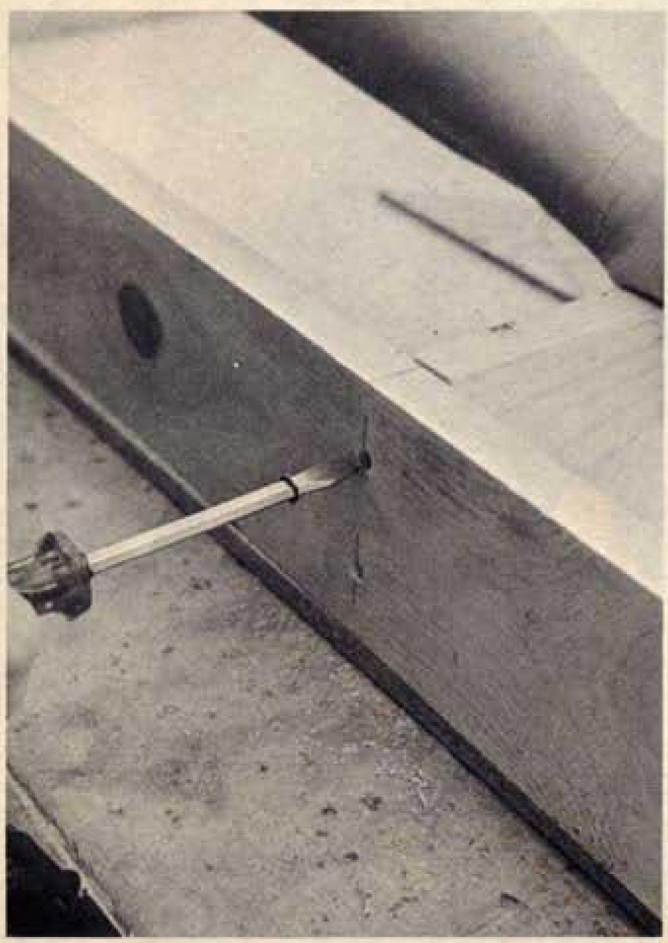
use one 9"x9" piece of 1/4" plywood, cut diagonally, to make two gussets.

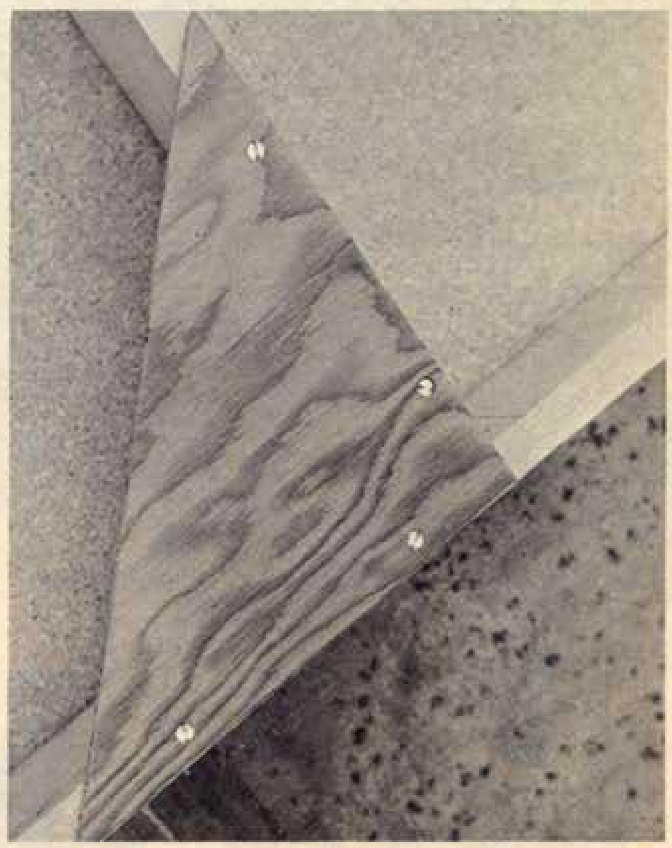
GUSSET DETAIL



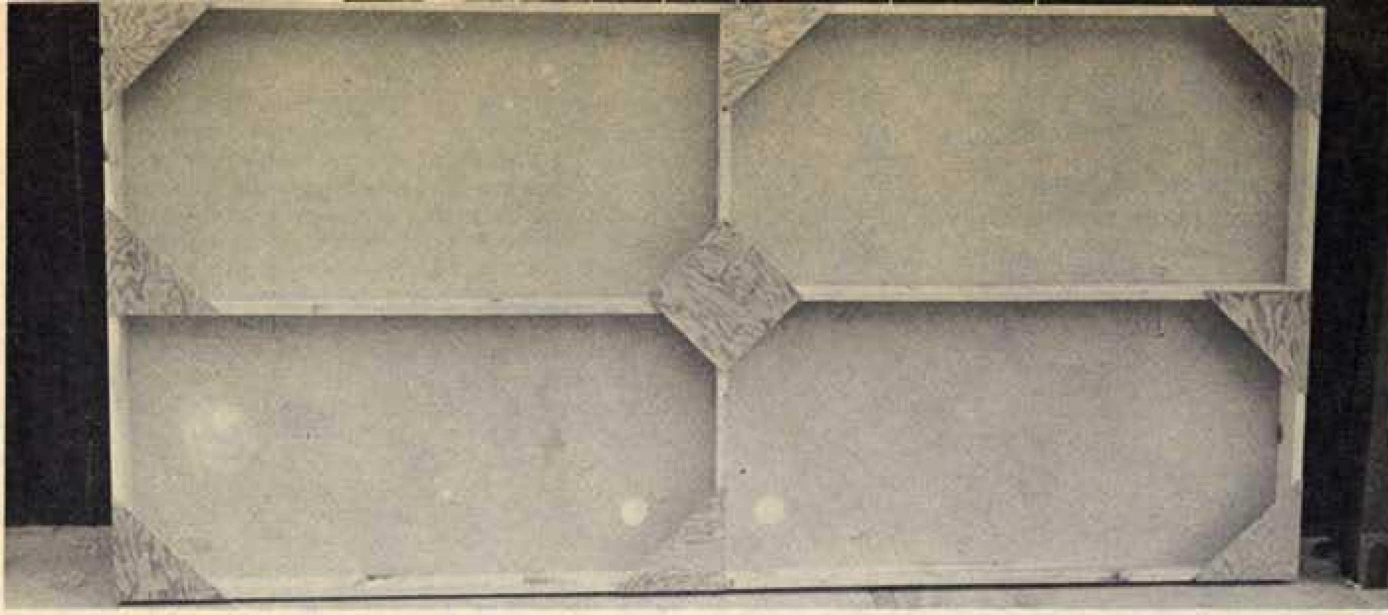
Screw and nail the frame together, keeping the outer edges of the frame flush with the edge of the particle board. The best procedure is to temporarily tack the pieces together with nails, drill 1/8" pilot holes, countersink the holes, then install the long woodscrews. Finally, drive the nails all the way in.





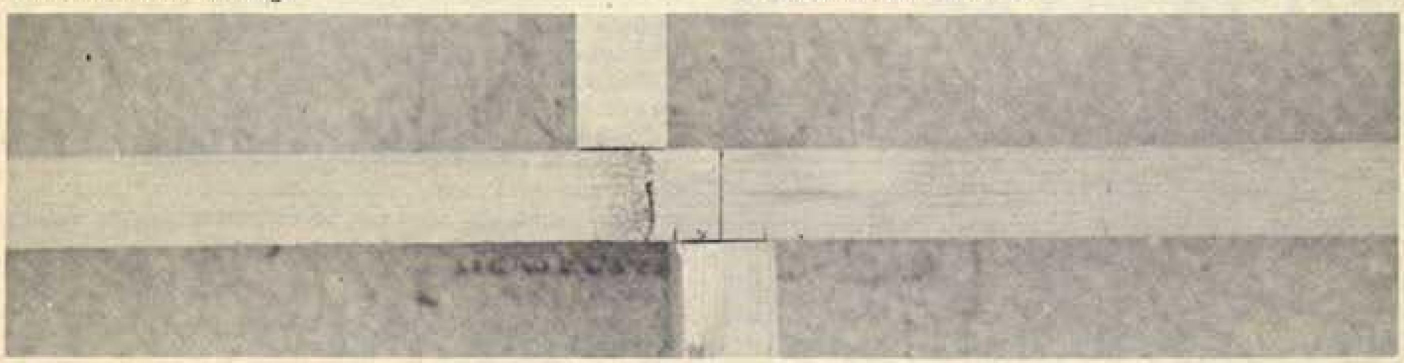


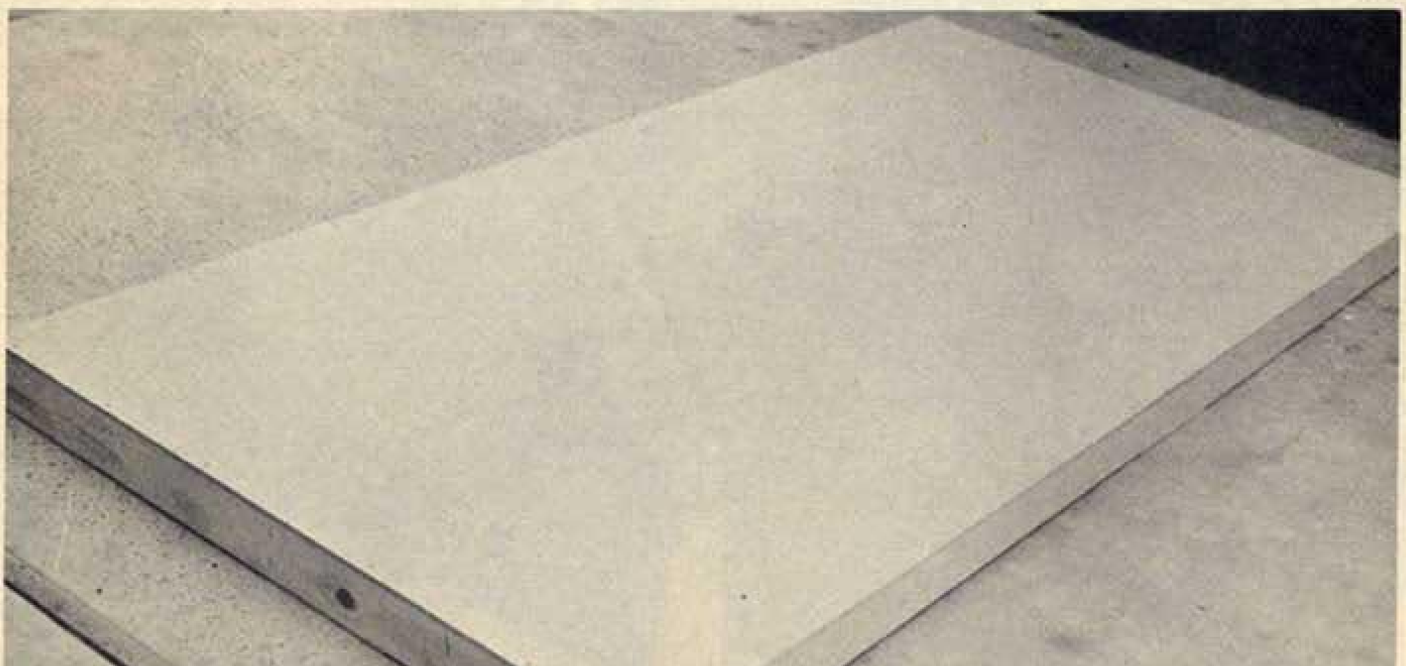
Install the corner gussets, then the 9" x 9" square center gusset, using nails and wood screws. Follow the same procedure that you used to assemble the framework.



Turn the frame over. Secure the particle board to the frame by placing a woodscrew every 12 inches after drilling pilot holes and countersinking.

The center pieces were staggered like this, to allow screws to be driven into the ends.





The finished table. Next month you'll see the wild track plan. I intend to hand rout the actual track, but you can also build this layout using your own plastic track (Aurora, Atlas, Tyco, Lionel, etc.).

DELTA DISPLAY

Here are some decorator ideas that accent your models as art, not toys.

Robert Schleicher



One of Revell's six new jet aircraft models in their "Strategic Air Power Series," the Saab J-35 Dragon in 1/72 scale. Saab is best assembled less the nose cone and intake tips to simplify painting.

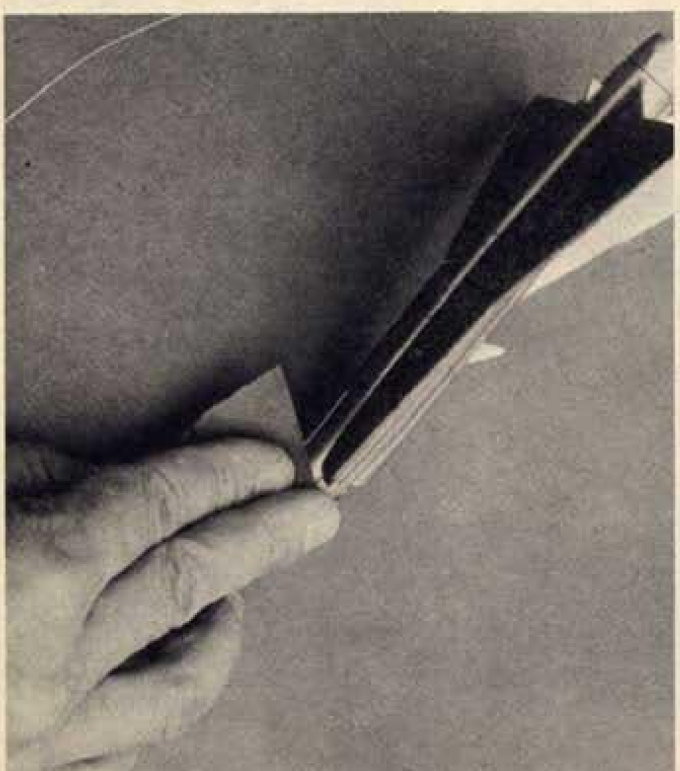
How often do you think of your models as art objects? Few of us do but we certainly have every right to. The model kit manufacturers retain expert sculptors to faithfully capture the lines and form of life in a "pilot" model from which the plastic parts are eventually fitted to allow the model builder to construct just as accurate a duplicate.

There are a few undeniably ugly planes or boats or cars that do an excellent job of performing the tasks they were designed for, but the ugly ones are the exceptions. In most cases, a well-engineered car, boat or plane *looks* as exciting as it performs. A model or a collection of models of exciting real life machinery deserves to be called "art" and be treated as such. Why shouldn't you use your model collection to decorate your room or den?

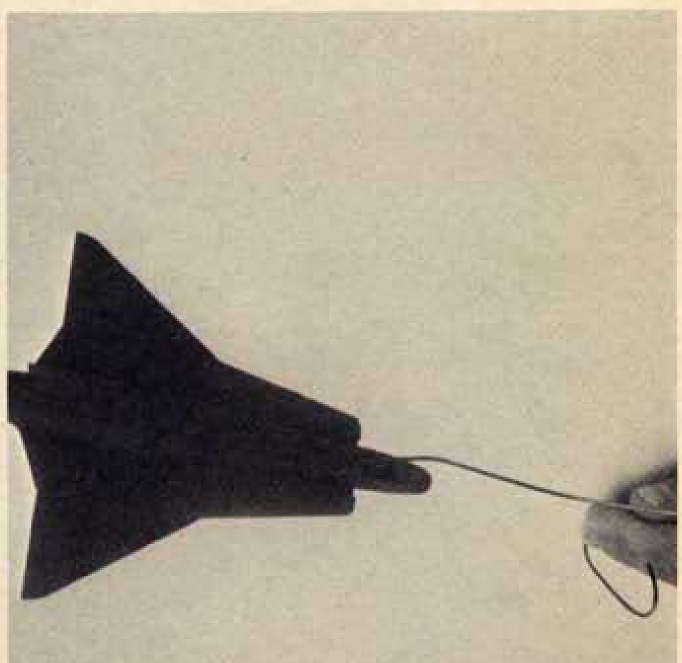
A string of models resting on a shelf looks more like a collection of science or historical specimens than art. To overcome the "statics-on-the-shelf" look there has to be some other way of displaying your models. With a car or boat collection, you've got a problem; there is little else you can do but arrange them on a shelf. Airplane models are something else. They're not designed to set on the ground; the're designed to fly. Anything you can do to make them appear to be flying is for the better. The clean, simple, delta-winged jets like those in these photos lend themselves best to off-the-shelf display because their shape is basically artistic. But, the ideas will be nearly as effective, artistically, with World War I biplanes.

The basic idea is to hang the models in groups. They can be wired to a piece of wall board for a picture-like display or strung on a single wire as though in a single column vertical climb. Or they can be dangled on nylon threads from a wire frame to serve as elements of the artistic sculpture called the "mobile."

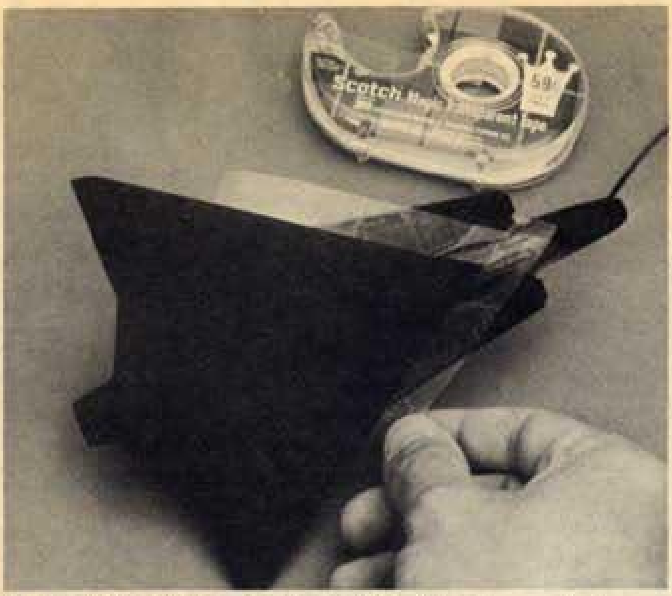
The photos and captions on these pages show you what can be done with three of Revell's latest delta-winged models. Any one of the three ideas, or all three, will add artistic value to your aircraft model collection. You'll appreciate your models more and the rest of the members of the house will also.



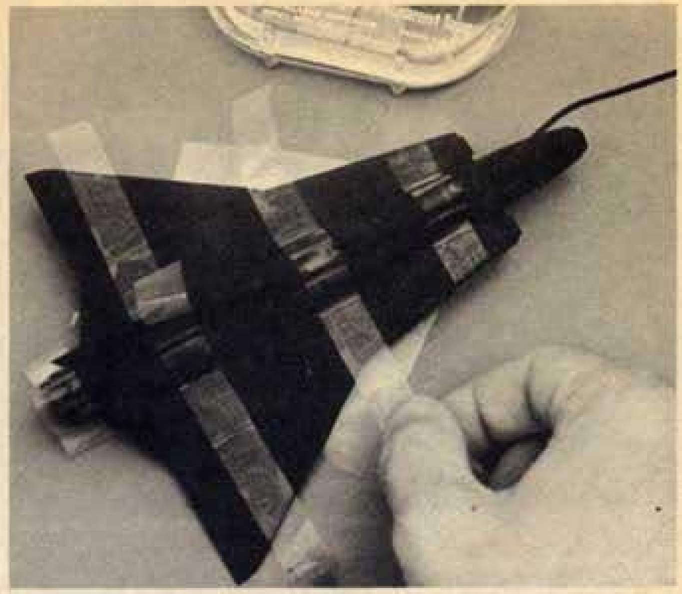
Fill joints with body putty and sand smooth, but try to avoid sanding away any of the rivet detail near joints.



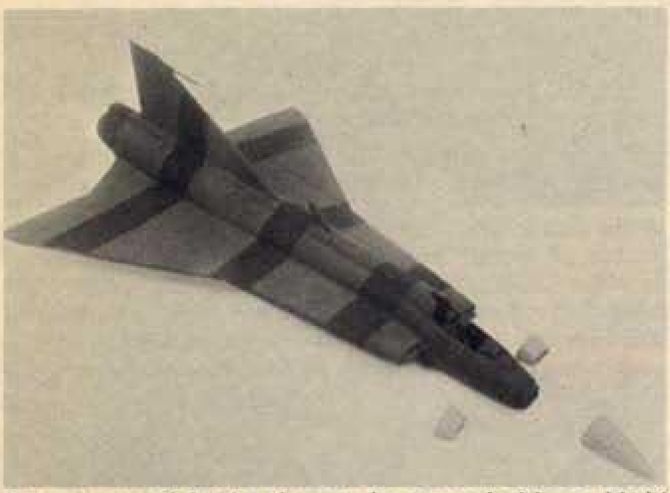
Spray-painting is easier if a handle is made to hold the aircraft. Bend a length of coat hanger wire to wedge inside body. Entire body can be sprayed with a coat of deep blue to match Sweden's camouflage colors of dark blue and dark green stripes.



Mask off "vee" shape on lower side of fuselage and wings as shown. Cover all of the nose area. "Vee" is silver.



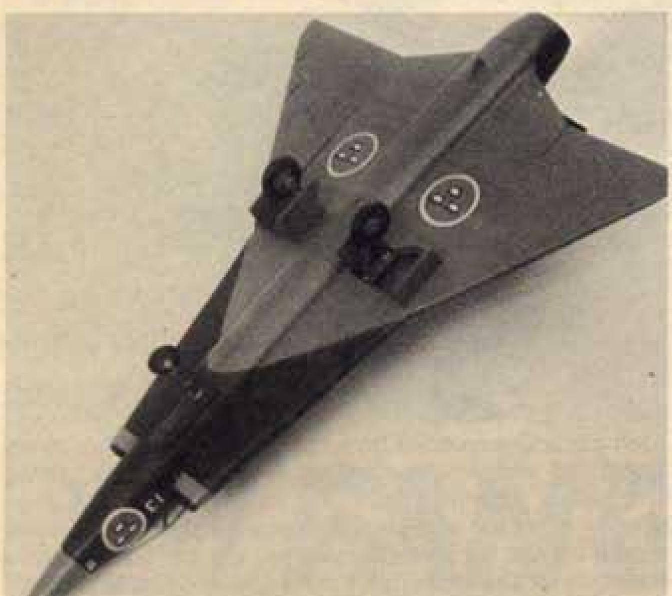
Blue and green stripes appear only on the top sides of wings and fuselage. Mask as shown, then spray on dark green.



Nose cone and intake tips can be sprayed either a khaki color or dark green to match body. Kit includes decals for this color scheme of Swedish Air Force as well as for "Acro Delta" aerobatic team. The "Acro Delta" planes are silver with blue rudders, black nose cone.

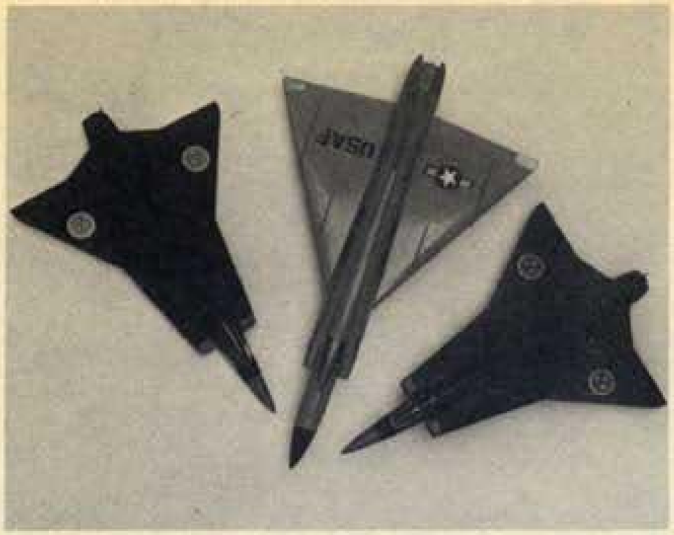


Contrasting dark blue and dark green stripes are supposed to simulate the fiords and trees of Sweden for effective on-the-ground camouflage. Landing gear may be glued in either open or closed positions.

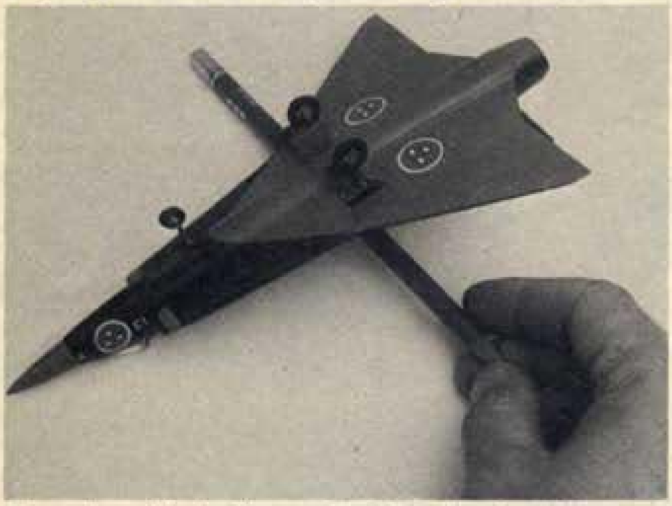




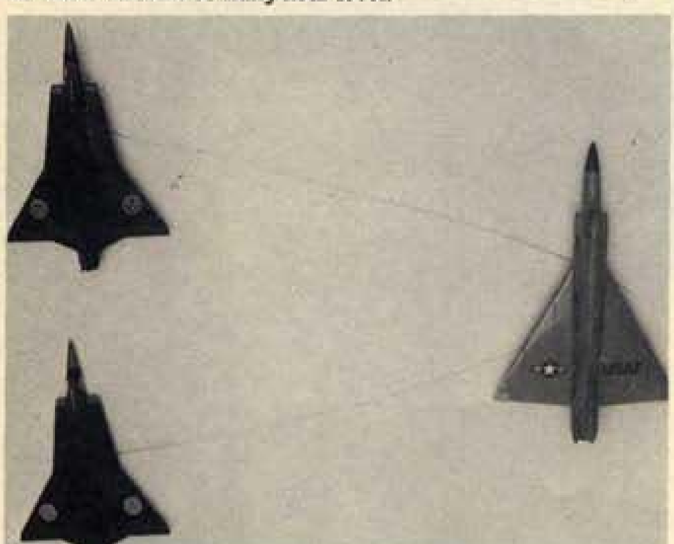
1/72 scale Convair F-102A Delta Dagger is another member of the Revell "Strategic Air Power Series" of $1 plane kits. USAF and National Guard markings are included in kit.



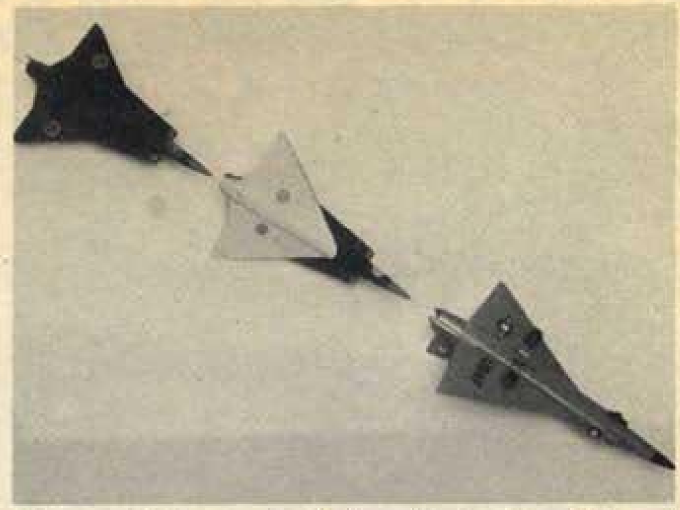
Three Delta winged aircraft, like these two Saabs and F-102A, can be wired to a piece of wallboard to be hung on the wall as 3-dimensional portrait of air power. Triangle -shaped planes make scene geometrically interesting as well.



To make an "action" scene for three aircraft models you'll need a 3-foot length of .040 inch piano wire, some nylon thread, tape, and a 1/32 inch drill. Balance each plane over a pencil to see where a single nylon thread can be attached to allow aircraft to hang near level.



Larger aircraft will be hung from the single end of the piano wire vee, others from opposite two ends.



Planes can be hung on short pieces of nylon thread, through holes drilled in each nose and tail, to make the jets appear to be in a vertical climb. If 1/16" rod is used to connect planes, the three would stand on a desk top as a form of vertical sculpture.



A six inch length of nylon thread can be temporarily taped to top of aircraft to see where it will hang. Adjust thread location until plane hangs near level, then drill a 1/32 inch hole at that point, tie nylon to a short length of toothpick, and insert and glue toothpick and thread inside fuselage.



Bend an "eye" in the exact center of the three-foot piece of piano wire with ends at about a 60° angle away from eye. Bend similar eyes into the tips of the two ends of the wire.

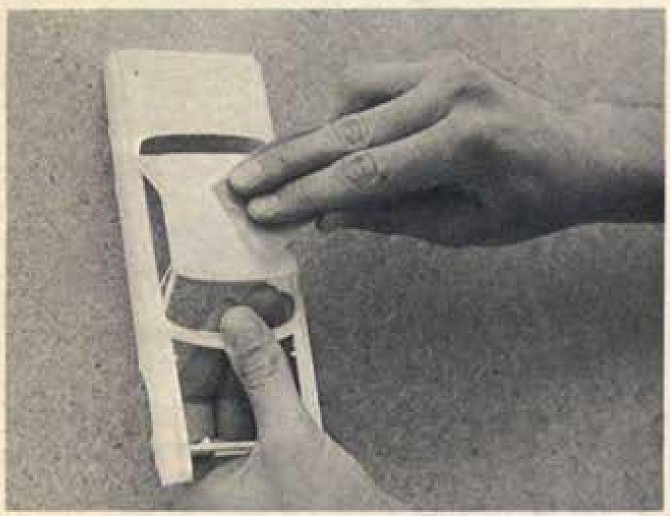


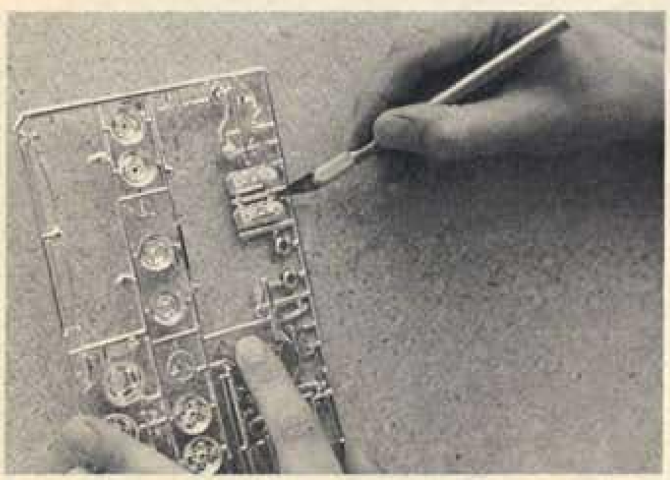
Each plane is suspended from the piano wire vee by a single length of nylon thread. The vee frame, with planes attached, is suspended from near its midpoint so that three aircraft will hang at about the same height. The slightest breeze will set all three planes, and the vee frame, into a slow spin so that the display is constantly in motion. Piano wire and nylon threads are so unobtrusive that the eye automatically concentrates on the rotating model aircraft.

Here's how, and it's easy.

FLAME IT

By Ted McKay

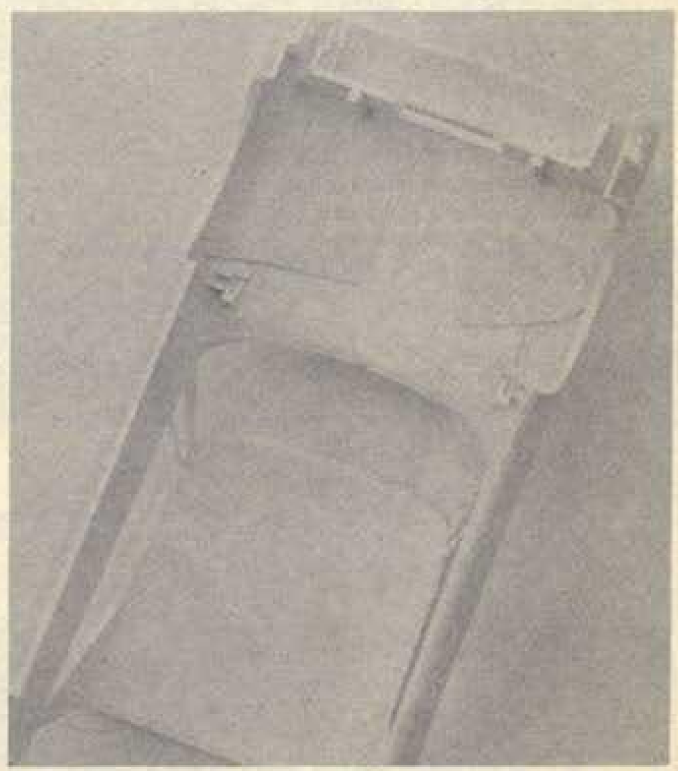




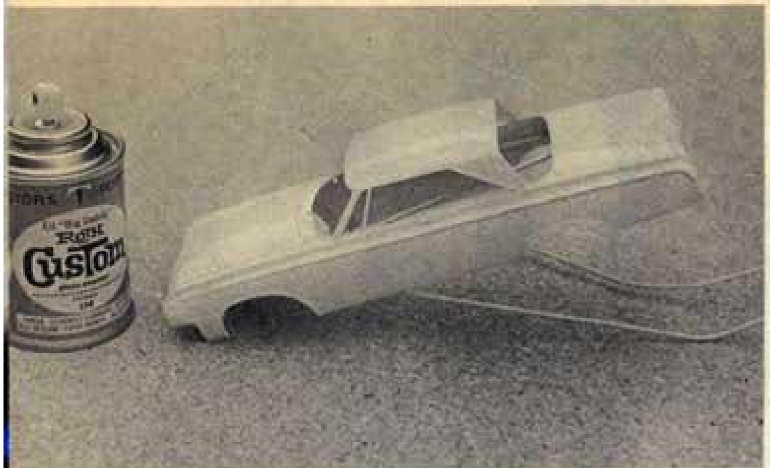
This is Jo-Han's '64 Dodge. Cut the bits and pieces from the "tree" with an X-Acto knife. "Clean" the edges of each part with the flat edge of the blade to remove "burrs." Sand the body shell and hood with #400, or finer, sandpaper. Wash in warm water, then let air dry.

Wild flame jobs are easy to apply. All you need is a roll of masking tape (available from any auto parts or paint store) and a can of spray paint or two.

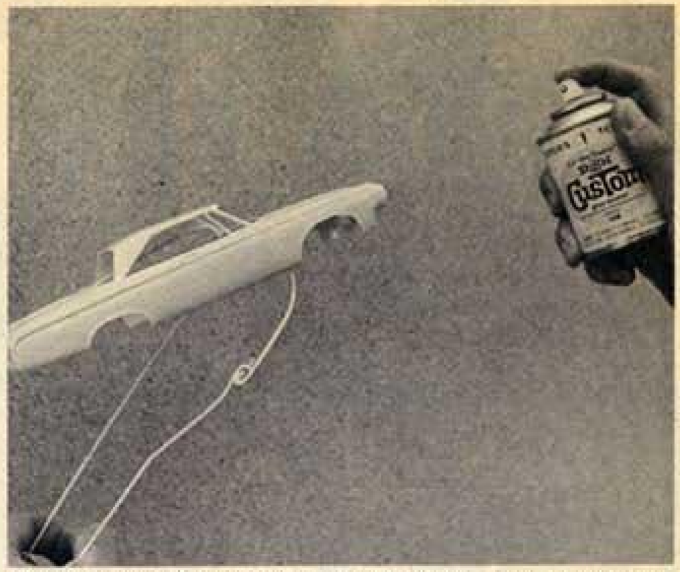
It is vital that the main body shell paint be completely dry. I'd recommend that you spray the shell, then let it dry for at least five days. Work slow, and use a bit of imagination. Your model will look beautiful, and you'll be proud to display it, if you follow these easy photo steps. Good luck.



The various body pieces should be sprayed at the same time, so the color will be uniform. Install the hood and tape it down on the inside.



Spray the body shell with Testor #1619 primer. Start any spray operation a few inches to the left of the shell, and spray across and past it by a few inches, repeating the passes until the entire shell has been covered. When the primer is dry, check for imperfections. Sand lightly with #600 wet-or-dry sandpaper. Wash in warm water and let air



Apply several light coats of Testor #1245, gloss white. Let each coat dry at least a day before applying the next. Let the final coat dry a week.



Using masking tape and wax paper, cut a "flame" pattern as shown here. Press the masking tape firmly in place, sealing the edge by pushing a fingernail along it.



Apply several thin coats of Testor #1103 red. When the paint is dry, carefully peel the tape off. Don't "jerk" the tape off the body! You might take paint with it!

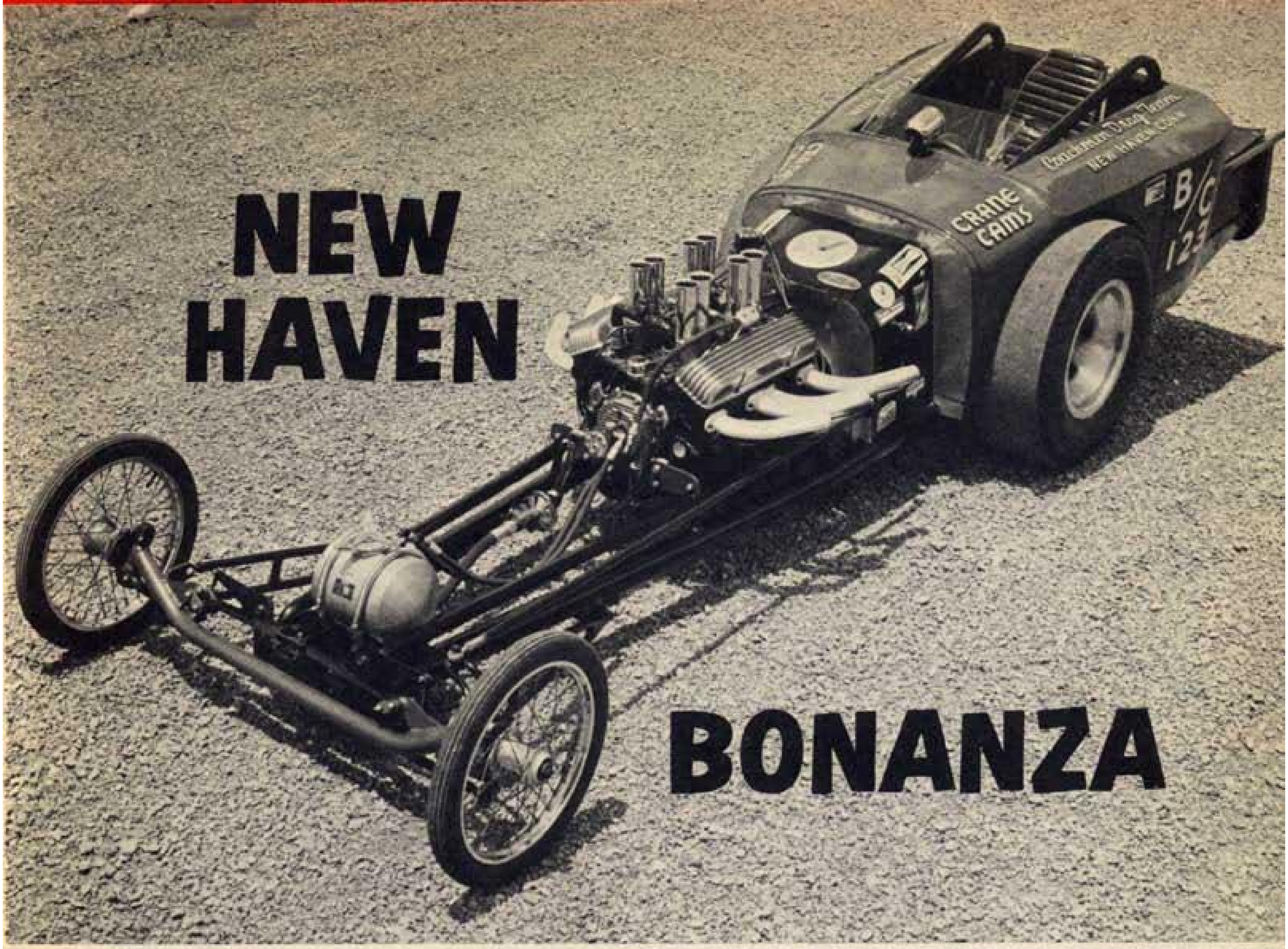


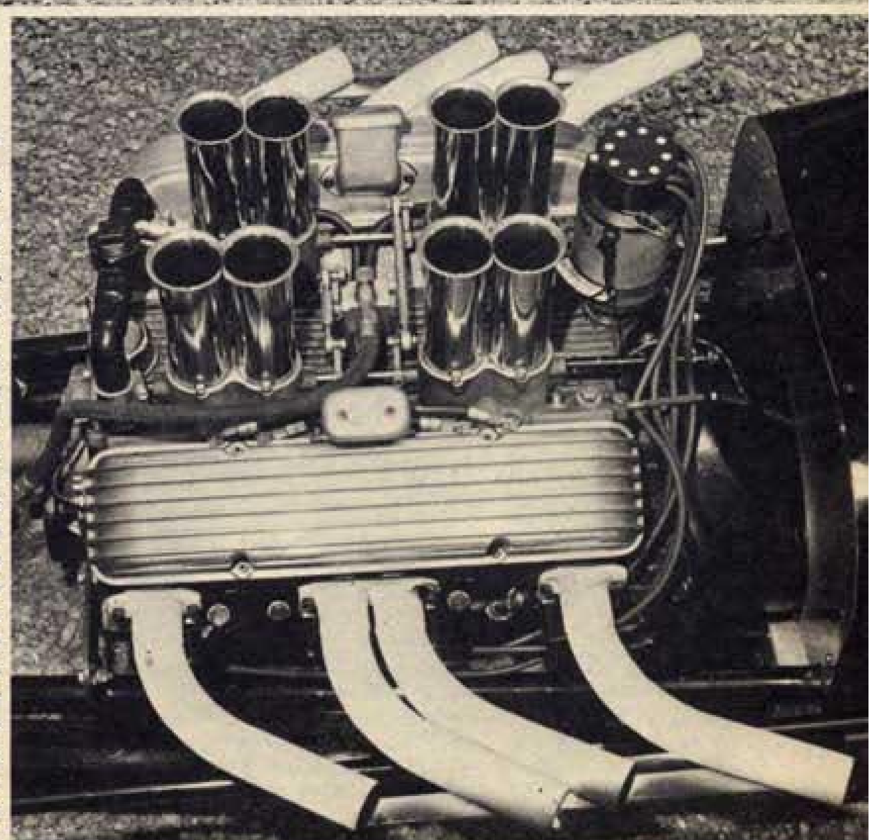
Spray the chassis with Testor #1149, flat black. From this point on, assemble according to the instruction sheet.



Testor's bottle enamels are great for detailing the car's fine points. Use a #00 or #000 brush. The finished flame job looks wild!

NEW HAVEN BONANZA





Vinnie Goodmaster of New Haven, Connecticut, spends his working hours as a gas turbine engine technician, but his free time goes into racing his B/C roadster at dragstrips. The car is a '27 Ford roadster mounted on a Chassis Research frame.

Wheelbase is 104 inches with a Linwood straight axle and cross-over spring on the front. Ford '48 spindles and a Crosley steering gear are featured with friction shocks. An Olds rear end is solidly mounted, while the Olds rear brakes and a Safety Equipment Company crossform parachute do the stopping.

Engine is a '63 Chevy with a cleanup bore increasing displacement to 288 cubic inches. Mickey Thompson aluminum rods, Forged True pistons, Grant rings, and a Crane camshaft and kit are used. Heads have been polished. A Vertex magneto and Hilborn injection are used to handle the gas. Short headers take care of exhaust.

Vinnie used a Weber aluminum wheel and an 11-inch pressure plate with his reworked second-and-third-gear-only Chevy transmission. Oil pressure and water temperature gauges keep operating requirements simple. The seat is finished in black rolled naugahyde, while the car is painted in regal red lacquer.

In action, Vinnie and his "Bonanza" travel the quarter in 9.80 ET's and speeds of 145 mph.

A SIDEWINDER IN NAMRA LAND

NOTE—More information on the special hard front wheels/tires used on this car can be obtained by sending a self-addressed, stamped envelope to "Tires," C/O NAMRA, P.O. Box 578, Times Square Station, New York City, N.Y. 10036. They're not cheap, but they're worth it.

Here's a winning 1/32 scale anglewinder!

By Jose Rodriguez, Jr.

A few issues ago, I had the pleasure of showing you a hot 1/32 Gran Prix chassis, currently winning races in Eastern NAMRA events. This month another 1/32 chassis, but one for either a Gran Tourismo or Sports car.

Although the sidewinder configuration is nothing new in 1/32 scale, it has yet to really gain a foothold in the Eastern part of the country. However, those who have seen the chassis described here are now giving this particular layout some very serious thought. It does not feature the steering front wheels, popular with many of its Midwestern relatives, but goes the one piece front axle route with locked-on, hard-as-a-rock front tires, now being made exclusively for NAMRA members. The one other feature that may seem out of place on an Eastern NAMRA car is the pin guide. These, though never favored in this part of the country, do work perfectly, providing the slot is perfect.

This chassis design is the creation of Frank Bianchi, current NAMRA Treasurer and race winner.

Like the GP chassis we mentioned, this one is not a beginner's project, as it requires much careful cutting with Dremel's Moto-Tool, and several hours of careful hand filing.

Both the designer and I suggest you read this article through, make a list of the parts and material you'll need, and gather them all before you start. To keep the drawings as clear as possible, I have left out all dimensions—they'll be noted here in the copy. The drawings are actual size, however, so you can use them right out of the magazine as patterns for your parts.

NAMRA's minimum tire size diameter in 1/32 scale is, so far, 3/4," so this chassis, as it appears in the drawings, is set up for a 3/4" front tire and a 27/32" rear. If you intend to change these tire sizes, make the necessary changes in the plans for ground clearance now, before you start. Grab a Dremel and start cutting.

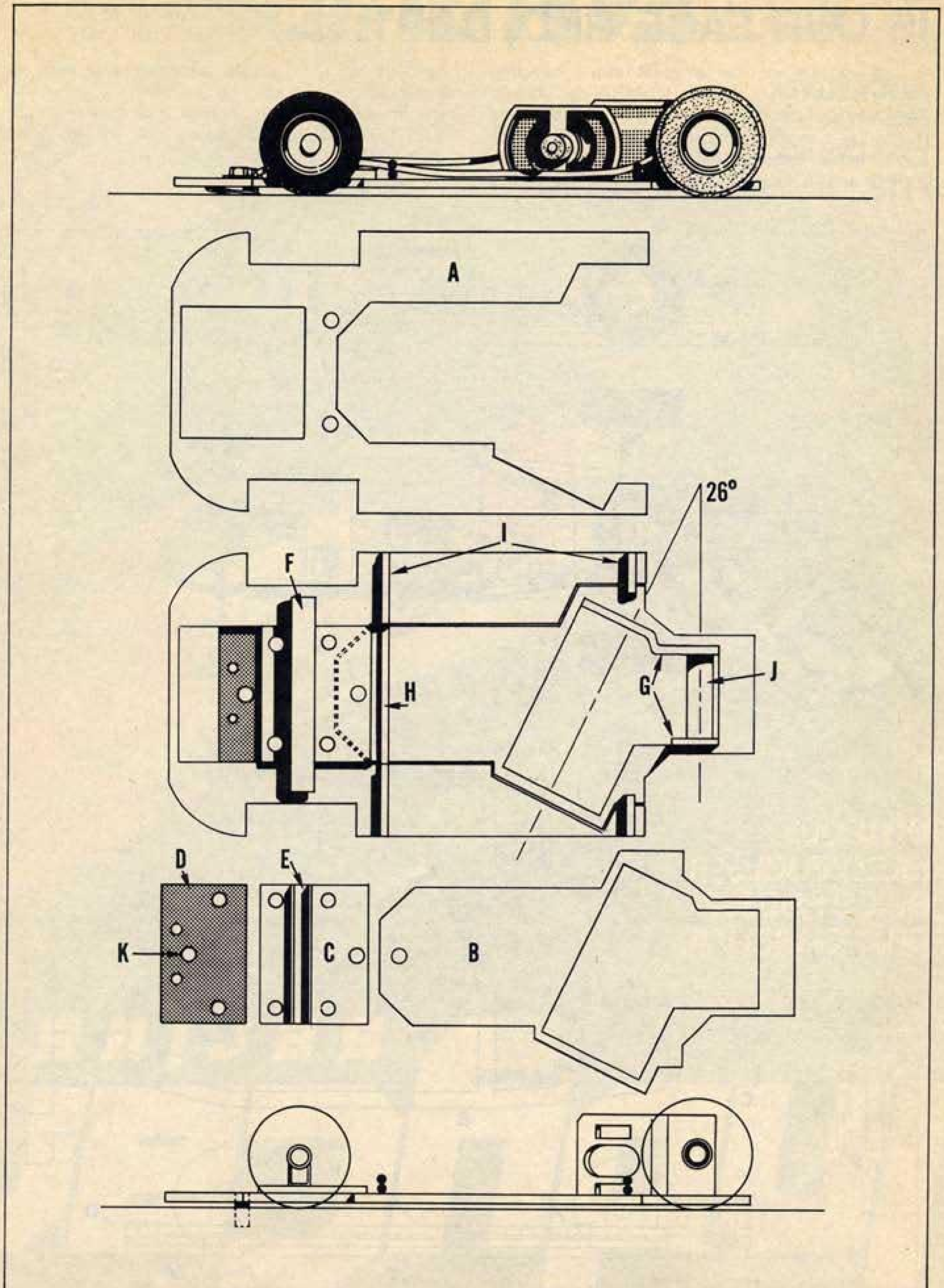
The chassis consists of two main units "A" the outrigger that carries the front end complete, wheels and guide device and, "B" the motor/rear axle carrier. "B" is nothing more than a trailing tongue that in reality pushes "A" ahead of it. Both "A" and "B" are cut from a sheet of 1/16" thick brass. We suggest you mark off two separate pieces, unless you're a genius like Frank, who can whack out both pieces from a single pattern. Cut out "A" as close as you can to the given shape, then file to exact outline by hand. Make sure everything is straight by checking constantly with a small triangle available from an art supply store.

There are only two places to be especially careful of, in filing. That is the open rectangle that houses the guide shoe (plate "D") and acts as a bumper, and the lower left-hand corner of the plate. File this part last. Do not drill the two holes yet.

Part "B" is the motor/rear axle carrier, and if anything, will require even more work. 1/16" brass is pretty hefty, but when you open it up and file it down as we illustrate it can, if you're not careful, get bent. Watch it. The motor opening in "B" should allow you to mount any Mabuchi 16D size motor, Champion 517 and even Mura's slightly longer one if you continue to check and file. If you feel you would like a little more meat around the bearing end of the plate, you can do no better than using Mura's new short can. Check fit of plate "B" in "A" often. The idea here is that it should not be a press fit, nor even a slip fit. There should be about 1/32" between "A" and "B" all around the three sides of "B."

Again, do not drill holes at front of "B." The next step is to rebend a Mini-Wheels angle winder bracket to fit inside of "B." The bracket "G" is soldered to the inside of the motor opening in "B," as illustrated, and the other section again refer to "G" that holds the left side of the rear axle tube "J," is formed from a small piece of brass plate, using the original Mini-Wheels bracket as a pattern for height and location of tube size. This little bracket also gets soldered

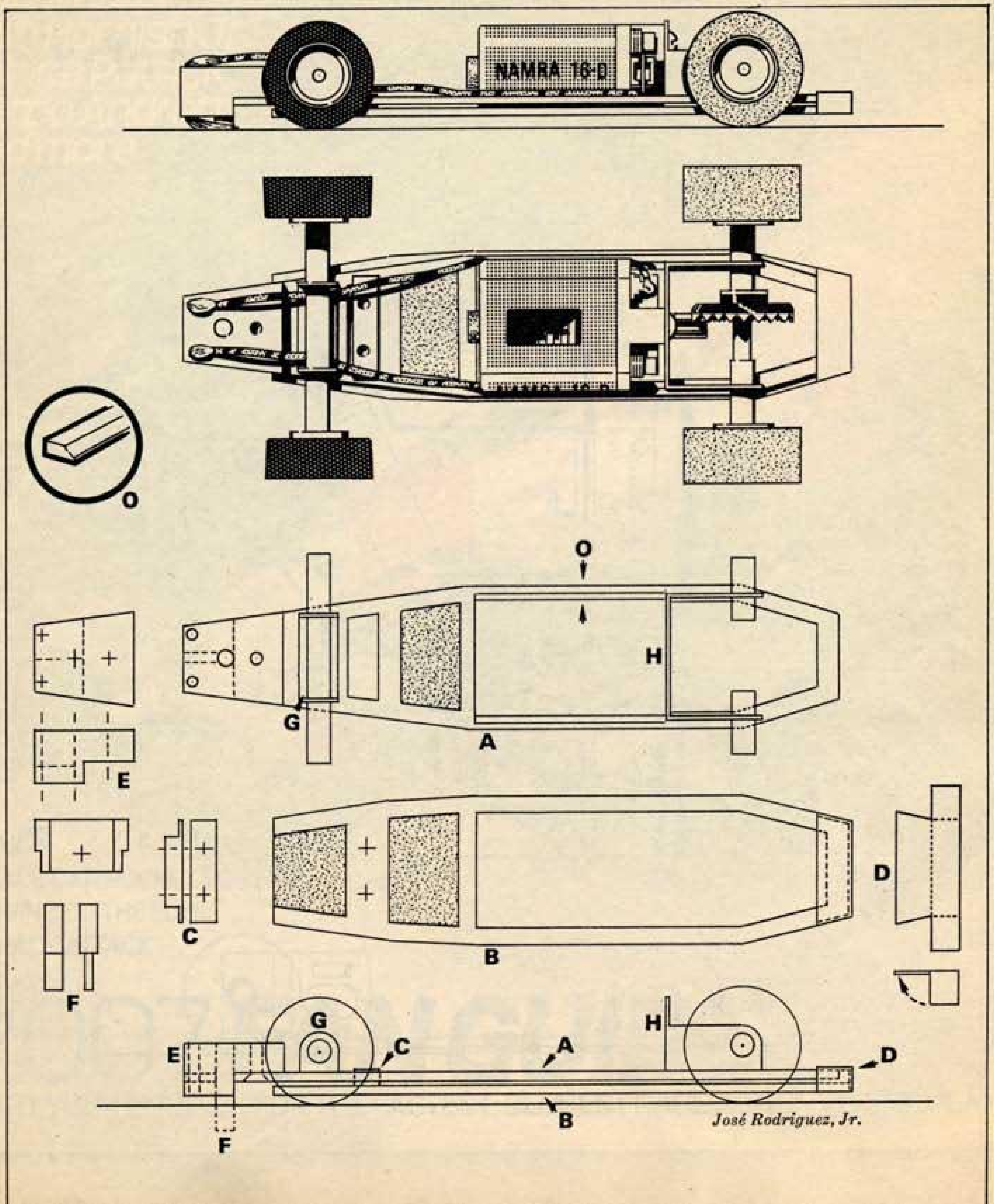
continued on Page 62


A
26°
I
F
H
G
J
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C
B

IS OUR FACE RED, DEPT. **Here's a vital correction to last month's "IF THE SHOE FITS" story.**

Last month we ran a great story by Jose Rodriguez, Jr., on building a NAMRA pan chassis. The story stated that the drawing of the pan could be used as a template because it was the same size as the actual chassis. Unfortunately, our printer goofed and reduced the drawing and we didn't catch it before it got on the presses! In order to make up for this goof on our part, we're running the drawing again this month, this time the right size. Our apologies to Jose, (one of the finest designers in the country) and to you, our readers.

ACTUAL SIZE—USE AS A TEMPLATE



1969 NATIONAL CHAMPIONSHIP RULES

FOR 1/24th SCALE COMMERCIAL MODEL CAR RACING

Effective Date — January 1, 1969

Developed and Adopted for the Slot Racing Industry by the National Championship Rules Committee:

Acting Chairman — Bob MacLeod
Acting Secretary — Jack Lane
USRA Spokesman — Lynn Fletcher

Members represented at meeting held in Downey, California, November 3, 1968 (alphabetically listed): Buzco, Car Model Magazine, Champion of Chamblee, Cobra, Dynamic, Dyna-Rewind, Emott Enterprises, Lenz, Mini Wheels, Model Car Science, Model Racing Journal, Mura, Nutley Raceway, Phase III, Riggen, R.E.H. Distributors, Twinn-K, USRA, Weldun.

THIS SET OF RULES MADE AVAILABLE THROUGH THE COURTESY OF

MODEL CAR SCIENCE

Art and type for these rules supplied by Car Model Magazine and Model Car Science as a service to the industry

BODIES

1. **SCALE** — Cars must be approximately 1/24 scale replicas of cars actually raced in competition. Manufacturers and builders are urged to maintain scale proportions and dimensions within ± 3/32". Variations are allowed to conform to current state-of-the-art practices.

2. **MODIFICATIONS** — No *excessive* modifications allowed; and obviously shabby looking cars will not be allowed to enter. Modifications, other than those allowed herein, must be supported by and identical to pictures of actual car.

3. **CUTTING & TRIMMING** — Edges may be trimmed slightly to lower car, provided that no *major* molded detail is destroyed, such as door lines, vent holes, grill, etc., except on rear of body, as follows:

(A) The lower edge of the rear end of Open and Closed Sports Cars may be trimmed to within 5/8" of upper

edge, provided the lower edge of any molded vent hole isn't removed.

(B) Formula and USAC bodies may be cut to provide clearance for motor and/or sidewinder gears, provided the clearance gap around those parts does not exceed 1/16" and is neatly done. Body at rear of cockpit may not be any lower than top of motor.
No trimming allowed after Technical Inspection unless approved and observed by a Race official.

4. **RESHAPING** – No bubbling or other reshaping, except on sides of Stock Cars to provide clearance for tires. Clearance shall not exceed 3/32". Under no condition will body exceed 3 1/4".

5. **FENDER WELLS** – May be trimmed *slightly* to provide clearance for tires, provided top of fender is not cut into, as in Figure 1.

6. **FLARING** – Fender wells on sports and GT Cars may be flared neatly to the top of the fender only, not above. Tape or other foreign materials are not allowed to extend the width of the body.

7. **AIR CONTROL DEVICES** – Must be positively attached to prevent accidental dislocation. Use of tape is specifically prohibited.

(A) DIAPLANE – One may be attached to front of Sports, GT, Formula, and USAC cars, but must be no wider than body, nor extend more than 1/2" from the body at any point, and must originate under the top of the body or in prototype location. It may be used to cover the pickup assembly, in which case it must be painted. With diaplane, grill (if any) may be removed (see Figure 2). **(see exception re: formula cars on drawings)**

(B) SPOILER – One may be attached to rear edge of Sports, GT and Stock Cars, but must be no wider than body, nor extend more than 1/2" from body at any point.

(C) WING – One may be attached transversely at any point on the body with rigid struts, similar to actual race car practice. Wing must not exceed 1" x 3" and must not obstruct driver vision.

(D) TRIM TABS – Two may be mounted at any point on body to help control air flow over body. They must not extend beyond side of body. Material shall be transparent clear, so as not to hamper the overall appearance of the car. Tabs must not exceed 1/2" x 1/2".

8. **WIDTH** – Fendered bodies may be no more than 3 1/4" wide at any point, including flares, body fasteners, etc.; Formula and USAC bodies may be no more than 1 3/4" wide at any point.

9. **NUMBERS** – At least three, located as on actual race cars (see illustrations).

10. **DETAIL** – All bodies must be fully painted and detailed to resemble real cars. Exhaust pipes, carburetor stacks, and decals are required, if applicable. All wheels must be realistic looking.

11. **MOUNTING** – Bodies must be fastened positively to prevent accidental dislocation. Fasteners should be as unobtrusive as possible.

12. **ROLL BAR** – All open cockpit cars must have realistic appearing head high roll bar, made of rigid, non-metallic material.

13. **INTERIOR & DRIVER** – Each car must contain a suitably painted driver with helmet, shoulders, arms and steering wheel mounted securely in a cockpit, along with a detailed instrument panel and seats. Driver's head shall be mounted so that his normal vision through the windshield (which shall be clear) is not obstructed. No part of the chassis or track surface shall be visible through the cockpit area.

14. **CONCOURS d'ELEGANCE** – It is recommended that the body be detailed to resemble the actual car it represents as closely as possible and pictures be presented as evidence of authenticity. Points shall be earned for striping, mirrors, decals, wheel detail, etc. *However,* to encourage better looking race cars, only the fastest half of the qualifiers or the top 16, whichever is larger, shall be judged for Concours.

RUNNING GEAR

21. **TRACK CLEARANCE** – 1/16" minimum at beginning of race for all parts except gears. No parts may drag; cars shall be "black-flagged" when dragging occurs.

22. **GEAR CLEARANCE** – Gears shall not extend below chassis, unless approved by Race Director and/or track owner.

23. **WIDTH AT WHEELS** – 3" maximum, front and rear, measured outside-to-outside of wheels or tires, whichever is wider. Tires must be covered by body at the top when viewed from above, except on open wheel cars.

– front axle/wheel assembly may move up to 1/8" to either side of center position.

– Tape or other foreign material shall not be considered as part of the body for this rule.

24. **WHEEL BASE** – Should be scale within ± 3/32", but may be changed to conform to the current state-of-the-art. Wheels must be centered in the wheel wells of the body.

25. **TIRE WIDTH** – 3/16" minimum and 11/16" maximum.

26. **TIRE DIAMETER (at start of qualification)** – 3/4" O.D. minimum for front 7/8" O.D. minimum for rear.

27. **AXLES** – May not extend beyond wheel edge.

28. **GUIDE FLAG** – Entire flag assembly, when pointed straight ahead, must be covered by body or diaplane when viewed from above, except when viewed through legal body opening.

29. **CHASSIS** – Must be completely covered by body when viewed from above, except when viewed through a legal body opening. Formula and USAC framework may show on sides where sidewinder motor extends out from under body, as in rule (3B).

30. **MOTOR** – Must be completely covered by body, except for cooling hole same size as, and directly above, the armature stack, and as provided for in rule (3B).

31. **TIRE DRESSING** – Must be approved by Race

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Director and/or Track Owner. May be applied *sparingly* to tires or track in your own lane, but only before and after a heat, not during a race.

32. **PARTS REPLACEMENT** – Any part may be replaced or changed as long as the basic original configuration is maintained, except large parts such as body and frame. Small component assemblies may be exchanged, such as flag with braid, motor with flag, axle with gear and wheel, and others approved by Race Director. *Track clearance and tire size must be checked by Race Official after all tire changes.*

DRIVERS

41. **CONDUCT** – Lap penalties may be given for ungentlemanly behavior, such as profanity, etc. One lap is recommended for first *minor* offense, 3 laps for 2nd and total disqualification for 3rd offense or for any *major* offense, at the discretion of the Race Director.

– Driver shall call his color (green, please) when he wishes to remind a marshall to reslot his car.

42. **CORNER MARSHALLS** – May not repair cars while on duty; this includes straightening braid, pushing in pins, etc. All drivers shall serve as corner marshalls during the heat immediately preceeding the heat they run in, or each team shall provide a qualified marshall at all times, although he does not have to be a driver.

43. **TEAMS**

– For races under one hour long – 1 member only

– For races under four hours – 1 or 2 members

– For races 4 – 15 hours long – 2 or 3 members

– For races 15 – 30 hours long – 3 or 4 members

– For races over 30 hours long – 4 or more

– Teams must consist of drivers and marshalls

44. **DRIVING TIME** – Each team member designated as "Driver" must drive at least 20% of the race; and he may drive only one car. Only those "Drivers" listed on the registration form may drive for the team.

TRACK AND EQUIPMENT

51. **POWER SUPPLY** – 12 volt batteries are recommended, with combined rating of at least 100 ampere hours, with full wave rectified charging power supply in parallel with battery. Charger should be adjusted to supply 40% to 50% of total current being used by the track. For Endurance races, additional batteries should be added in parallel to increase the capacity to 40 ampere hours per hour length of actual racing time. Example: 8 hour Enduro = 320 ampere hours combined battery capacity.

It is recommended that batteries be located directly under the track, with heavy-duty relays to control power to the lanes.

Wiring throughout the system should be large enough to provide a total system resistance of 1/2 ohm or less, including .05 ohm for controller, from the battery to the farthest point on the braid from power connections and back again. All lanes should be equal within 5%. The wiring on the common side should be no more than 10% of the total (.05 ohm) from the battery to the most distant connection to the braid and should be connected so the car is never more than 25 feet from a connection.

Resistance can be checked by measuring the voltage drop at 20 amps at different points on the track by applying resistance across the braid at the voltmeter to absorb the power. If voltage drops more than 10 volts, the wiring is too small or more jumpers are needed or connections are bad (see Figure 3).

52. **TRACK** – Surface may be cleaned if desired, but must be completed at least 48 hours prior to scheduled beginning of Registration.

– Polarity of braid shall be positive (+) on right side of car. Reversing switches shall be secured to achieve the above.

53. **LAP COUNTER** – Is considered correct unless proven faulty. It is the driver's responsibility to cause his car to activate the counting device. Laps missed may be corrected if verified by a Race Official.

RACE PROCEDURE

61. **CAR CLASSES** – Formula: Grand Prix Formula I (1961 vintage or later). No USAC cars allowed.

– Sports: Open Cockpit Sports Cars (Group VII)

– GT: Grand Touring Closed Coupes

– Stockers: Grand National Stock Cars (1964 vintage or later) having 116" minimum original wheelbase. *No compact cars allowed.*

– USAC: Indy type USAC Championship Cars

62. **REGISTRATION** – All cars shall be inspected and impounded before registration closing time. No cars accepted afterwards, except by majority vote of the entrants.

– Drivers shall state at registration whether they are "Factory Sponsored", or "Independent", Race Director shall make final classification based on degree of "Pro" status driver has attained. Merely competing in the "Pro" race does not automatically affect classification of driver.

– Track power shall be turned off 30 minutes before closing of Registration.

63. **TIME TRIALS** – One minute practice starts when car is placed on track. Qualifying attempt must be completed, once started, unless the Race Director grants additional time for repair of an unforeseen occurrence, such as motor stoppage, gear failure, failure of track equipment, spectator interference, or other unfair incidents.

Option A) TIMED LAPS: Each contestant will be timed on every other lap for 4 consecutive timings. The lowest time shall be used to determine position. Backup times shall be used to break ties. If necessary, final tie can be broken by order of registration – first to sign up wins.

Option B) TIMED RUN: Two minutes run for total laps and sections. Pro race entrants shall qualify individually on the lane specified by the Race Director. Amateur race entrants shall qualify two at a time if over 50 entrants total. In the event both cars deslot on the first turn, they must both restart the qualifying run. (It is recommended that the two qualifying lanes be separated by two empty lanes.)

(Option A or B should be specified in race announcement.)

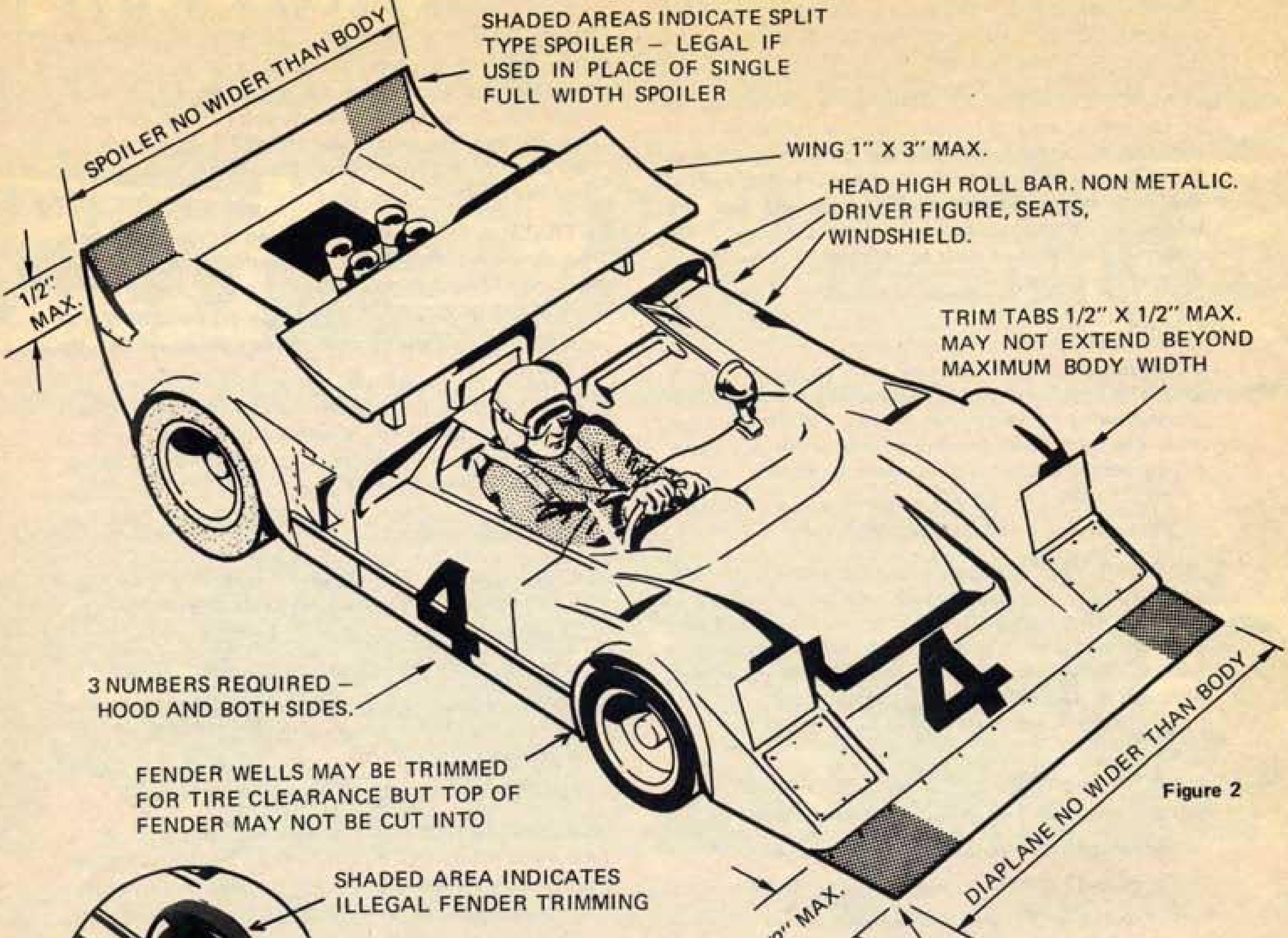


Figure 2

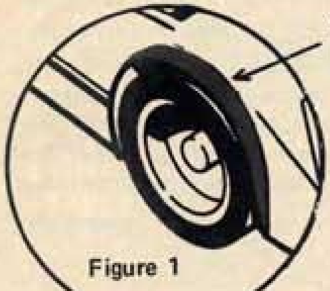
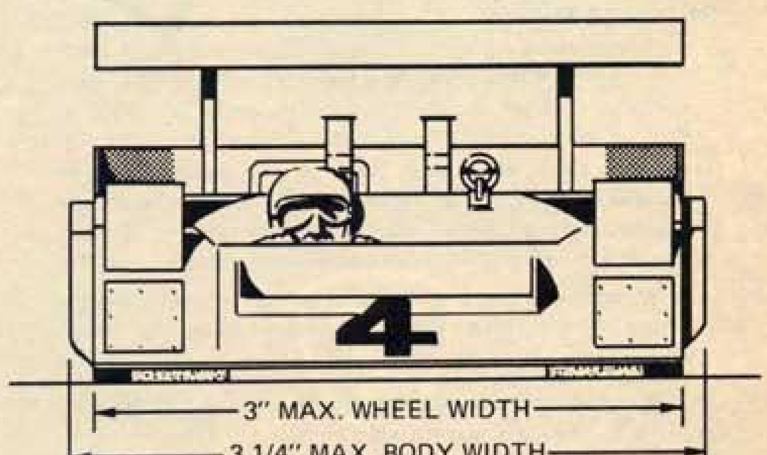


Figure 1



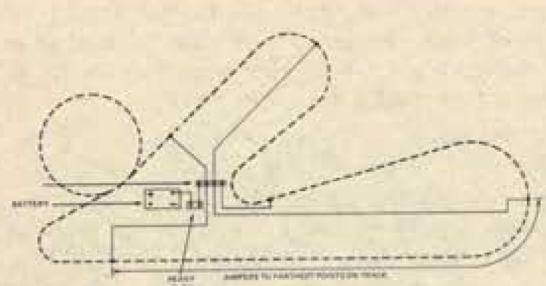
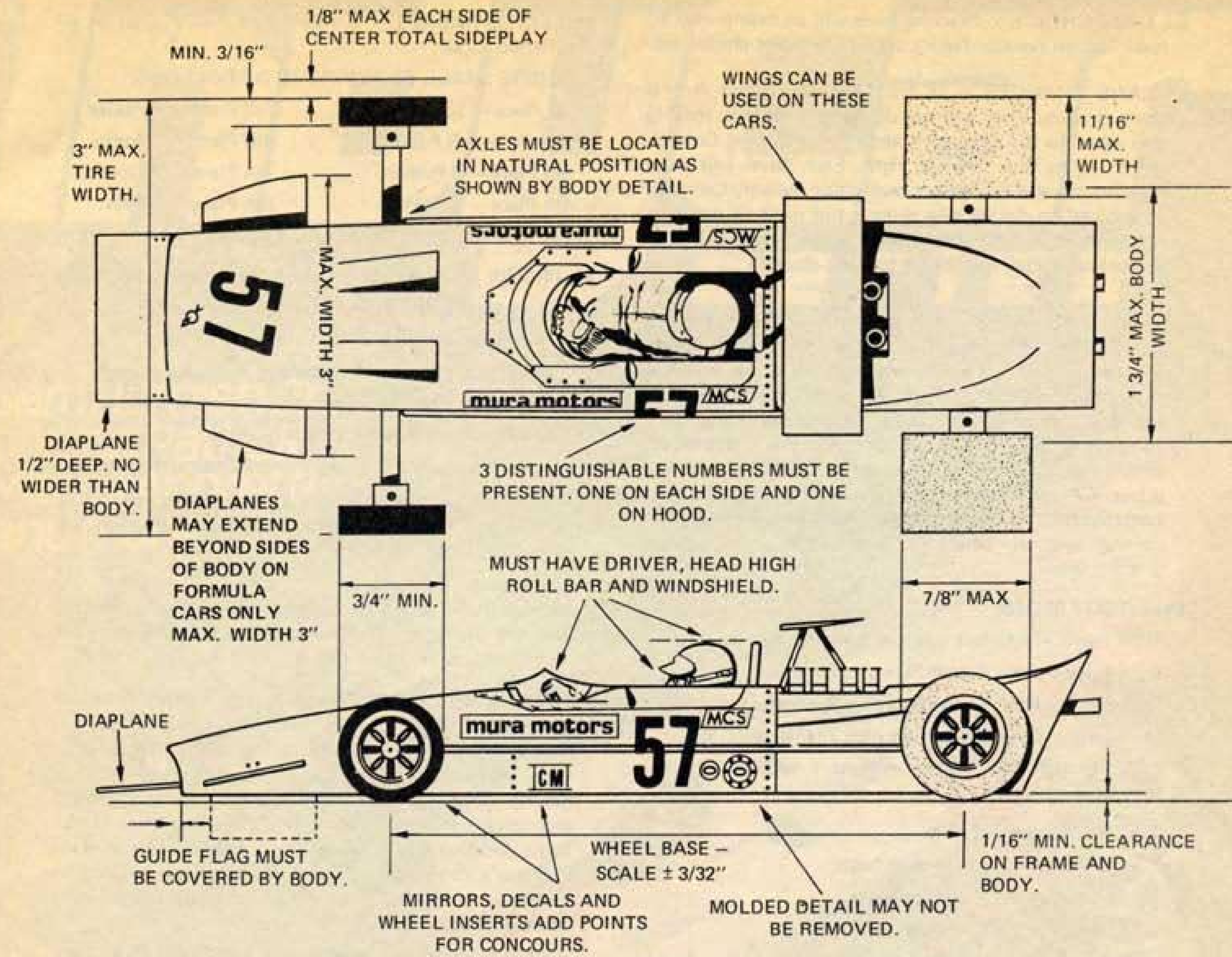
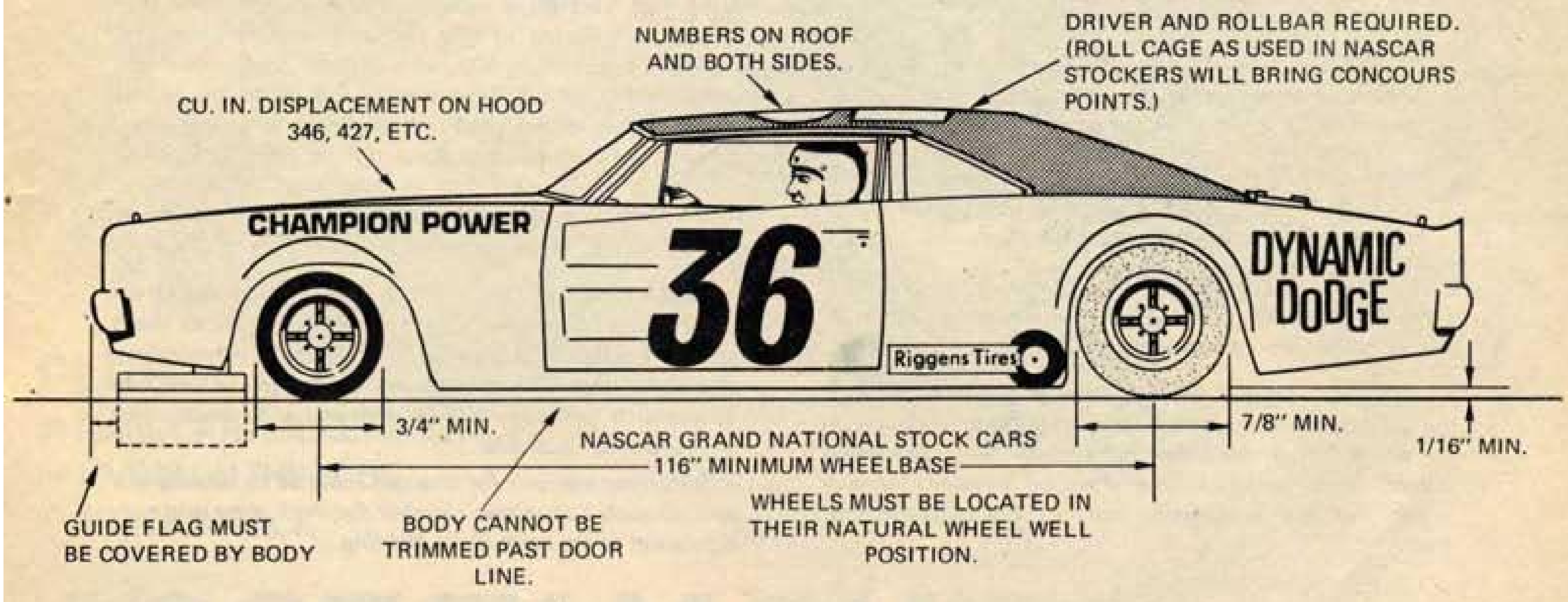


Figure 3


1/8" MAX EACH SIDE OF CENTER TOTAL SIDEPLAY
MIN. 3/16"
3" MAX. TIRE WIDTH.
AXLES MUST BE LOCATED IN NATURAL POSITION AS SHOWN BY BODY DETAIL.
WINGS CAN BE USED ON THESE CARS.
11/16" MAX. WIDTH
MAX. WIDTH 3"
1 3/4" MAX. BODY WIDTH
mura motors
57
MCS
DIAPLANE 1/2" DEEP. NO WIDER THAN BODY.
DIAPLANES MAY EXTEND BEYOND SIDES OF BODY ON FORMULA CARS ONLY MAX. WIDTH 3"
3 DISTINGUISHABLE NUMBERS MUST BE PRESENT. ONE ON EACH SIDE AND ONE ON HOOD.
MUST HAVE DRIVER, HEAD HIGH ROLL BAR AND WINDSHIELD.
3/4" MIN.
7/8" MAX
DIAPLANE
CM
GUIDE FLAG MUST BE COVERED BY BODY.
WHEEL BASE – SCALE ± 3/32"
1/16" MIN. CLEARANCE ON FRAME AND BODY.
MIRRORS, DECALS AND WHEEL INSERTS ADD POINTS FOR CONCOURS.
MOLDED DETAIL MAY NOT BE REMOVED.


NUMBERS ON ROOF AND BOTH SIDES.
DRIVER AND ROLLBAR REQUIRED. (ROLL CAGE AS USED IN NASCAR STOCKERS WILL BRING CONCOURS POINTS.)
CU. IN. DISPLACEMENT ON HOOD 346, 427, ETC.
CHAMPION POWER
36
DYNAMIC DODGE
Riggens Tires
3/4" MIN.
NASCAR GRAND NATIONAL STOCK CARS
116" MINIMUM WHEELBASE
7/8" MIN.
1/16" MIN.
GUIDE FLAG MUST BE COVERED BY BODY
BODY CANNOT BE TRIMMED PAST DOOR LINE.
WHEELS MUST BE LOCATED IN THEIR NATURAL WHEEL WELL POSITION.

64. LANE CHOICE – Starting lanes will be determined by qualification results: fastest time having first choice, etc.

65. LANE CHANGES – In the Main, Semi and A & B Consies, each driver will run on every other lane, moving two lanes to his right each time. In remaining Consies, drivers move four lanes to right. Each driver will move his own car and change his own color marker. Cars may be worked on during lane change, but must be put back on the track exactly where they stopped. A maximum of two minutes shall be allowed for lane change.

66. FEATURE RACES – The Amateur race series shall be run first, and shall consist of the top Independent drivers (maximum of 99). The Pro race shall follow the Amateur race, and consist of the top 24 qualifiers, chosen from the total entry list. No factory sponsored drivers may compete in the Amateur race; however, any Independent driver may enter the Pro series and accept the announced prizes. *CAUTION: By accepting cash prizes in slot racing competition, you may be automatically barred from competing in any amateur sports in high school, college or otherwise.*

(A) SITOUT SPOTS:

Main Event – 4 fastest qualifiers plus 4 moveups

Semi-Final – Next 6 qualifiers plus 2 moveups

"A" Consi – Next 6 qualifiers plus 2 moveups

"B" Consi – Next 6 qualifiers plus 2 moveups

"C" Through "M" Consi – Next 7 qualifiers plus 1 moveup

(B) LENGTH OF HEATS:

Main Event – Four 10 minute heats

Semi-Final – Four 5 minute heats

"A" Consi – Four 2 minute heats

"B" Consi – Four 2 minute heats

"C" Consi – Two 2 minute heats

Other Consies – Two 2 minute heats

67. PROTESTS – Must be made to the Race Director immediately after occurrence, or public awareness, of incident being protested, or forgotten forever!

68. RACE DIRECTOR – Shall make final decisions in all disputes and interpretations of rules, using good judgement based on common sense and fair play.

69. TRACK CALLS – NONE! The power will not be turned off during the race, except in extreme unfair or dangerous situations observed by the race officials.

70. PRACTICE TIME – A maximum of two minutes shall be allowed for practice, car adjustment, etc. before each Consi and four minutes before each Semi and Main Event. No additional time shall be allowed for any reason, except by majority vote of the racers in that event.

71. SERIES RACING – A race series shall consist of six different races.

POINTS SHALL BE AWARDED AS FOLLOWS:

1st Place – 10 Points	5th Place – 4 Points
2nd Place – 8 Points	6th Place – 3 Points
3rd Place – 6 Points	7th Place – 2 Points
4th Place – 5 Points	8th Place – 1 Point

Fastest Qualifier – 1 Point

72. PRIZES – The following schedule is recommended:

40% of total entry fee – winner of Pro Race

20% of total entry fee – 2nd place of Pro Race

10% of total entry fee – 3rd place of Pro Race

10% of total entry fee – winner of Amateur Race

10% of total entry fee – fastest qualifier

10% of total entry fee – winner of Concours d'Elegance

– Merchandise donations should be awarded only to the participants in the Amateur Race, down through 8th place if possible

– Engraved plaques for slot cases, or trophies, are recommended for all money winners, plus the following: 2nd and 3rd place in Amateur Race, 2nd and 3rd Concours winners, fastest Amateur qualifier.

73. RACE ANNOUNCEMENT – Should be sent out to all potential entrants at least four weeks in advance and should include the following information: Registration times and date, race time and date (if different), track description, power supply characteristics (no load voltage and voltage at worst point on track at 20 amps), raceway name, location and business hours, manager's name, Race Director's name, time trial method, length of race (if Enduro), entry fee, class of car, and any special rules (options, etc.).

Race should be registered with the National Championship Race Schedule Center (temporarily located at Car Model Magazine, 615 Ridge Road, North Arlington, New Jersey) at least three months in advance. The race date should be adjusted so that no two statewide (or larger) races are held within 400 miles of each other within the same 30 day period. First priority shall be to the earliest request. This service shall not be similar to airline reservations; announced races must not be cancelled, under penalty of $100 cash fine as additional prize money, which shall go to the next scheduled race on the calendar (after the date of the cancelled race).

74. RULES COMMITTEE – These rules were developed by the National Championship Rules Committee, as listed on front cover, and shall be in effect until amended by said committee. The rules cannot be changed before July 1, at which time they will be reviewed and reprinted for the following fiscal year.

– Recommendations for changes must be in writing and sent to each committee member for evaluation and consideration at the next Rules Meeting.

– Adherence to these rules is on a voluntary basis; however, any race sponsoring group that fails to enforce these rules, after publicly announcing their use on a given date, shall be denied use of the Race Schedule Center and shall lose its right to participate in all functions of the National Championship Organization for the balance of the calendar year.

Eastern Viewpoint

By Jose Rodriguez, Jr.

Well, it has finally come to pass. The commercial racing center boys, the "Jet Set" finally got together and came up with the set of rules they will all run by for their own brand of racing in 1969. I personally believe that, regardless of what your racing affiliations are, you must agree it's the best thing that they could have done for themselves. Certainly this will strengthen them, and their kind of racing, and should make for better events in the big ones across the country from here on in. It had better, both for their sake and the sake of commercial racing centers that stage the events.

The rules do not please everyone. The rule makers will be the first to admit this; you just can't please everyone. But they are the first ones for their game and it's that big step in the right direction.

I think every one of you that boasts that this is his kind of racing owes a big thanks to those who spent their time and money to make the meeting and the rules a reality.

I was privileged to be allowed to sit in on a meeting of the Eastern powers that sent a group to California, and I can assure you that those who prepared the rules that were proposed at the California meeting, and those that went from here, are some of the most knowledgeable people in slot racing today. There is no question in my mind that they have the best interest of the sport and their type of racing at heart.

Those of you familiar with my columns in the past who are now waiting for the kicker, forget it, there isn't any. If you're waiting for me to say I don't agree with the rules and that kind of racing, wait no longer, I don't. But, before any misguided individual, or group, or manufacturer out there demands a retraction from my editor or threatens to sue because of this, put away the nonsense pen, and read. I've been building and running little cars long before anyone thought of making a buck for it, I'm doing it now, I'll be doing it perhaps for years more, and I'll be doing it to a different set of rules. But that's the name of the game now, we all have a choice as to how we want to race and under what type of rules. Without using those fateful initials that seem to make some people scream, there is another national set of rules for another breed of racer, the scale nut. And guess what, there's room for both.

You play your way, and I'll play mine. You're welcome to cross over to my side of the track anytime, I trust the invitation works both ways.

Congratulations, you pros. You sure waited a long time for this, now you have it. Good for you. Attention Mike Morrissey: Being one of those "columnists" (thank you) you mentioned in your December "Morrissey on Racing" column, I'm forced to peck out some sort of reply to you. Regarding those long hair styles that I, for one, wrote about. First, let me explain. I'm not against long hair, on women nor men, boys included. My own does not see shears, very often for a month at a time. But its usually combed while I'm awake and moving. My sideburns are long, not Madison Avenue "Will the boss be angry; half way long." But all the way to the bottom of my ears. Very often I need a shave, and it's not the peach fuzz variety. I don't wear a drummer boy's uniform because I don't want to. Anyone who does, fine, be my guest. I don't care. Come hairy, come naked, but come clean, that's all.

Your explanation about late night, pre-race work does not cut it here. Or did you and the old RussKit boys always have race ready cars that required no pre-race preparation? I don't even remember ever seeing you fellows with your jackets unbuttoned. And you were pros.

I have to take the blame for the term "bum," but it was said to two friends, yes pros, Eastern pros, who knew it, who agreed, and who have since gone even further out in dress and thought, and are still my friends. But they're not dirty. The conversation was heard, and written up by someone else.

This jazz about "honest-to-goodness professionals" looking this way "when they're haggard, etc." just cannot cut it. I've seen old men, street laborers who put in long hard hours, shuffle off to a pail of cold water to wipe off their faces so they could go back to work a little cleaner. You can still do your job properly and be clean. Come on Mike, bet you wear polished Cordavans . . . Ok, can't disappoint mom, you want a kicker here it is. Just saw new 1/32 shells from Lancer. And I'm ready to stand on my head and stack BBs. I think almost everyone will agree with me when I say 1/32 is a scale enthusiasts choice. Like who ever heard of a 1/32 thingie? Well, you will. One of the samples this month was a little, or what should have been a little 1/32 McLaren Mk8A. Long awaited, right? Not now, not for me. This is the lowest, widest 1/32 car I've ever seen. Looks like they proportioned this one right down from their 1/24 handling stuff. And I feel so bad, I'm sick. I want so hard to believe that companies like Lancer do some market research, and then I see this. Who is it intended for? What market? And what a shame, after waiting so long for some scale stuff to buy.



"How's this for a deal? I just bought 3,000 H.O. model drivers for 65¢!"

THE TECH SHEET

Strange how history repeats itself. Simco has a new guide flag which Mike Steube has won at least five races with the prototype. Among the "new features" of this guide is the fact that the blade is .020" wider at the bottom than it is at the top. This reverse taper makes the guide stay in the slot better.

Competition Models brought out a similar guide a couple of years ago and it never became popular in spite of the fact that it was far superior to any guide on the market at the time. Granted, the new Simco guide is much different that Pactra's because Simco's is low profile, has a little longer blade and is .010" deeper (to accommodate the newer thick type braids) and is true quick-change type, when used with Simco's new combination braid and clip (it's all one piece–just snap braid in and out). This new guide and braid appears to work out fine and may well be the next trend setter.

Well, a new day dawns!! Kirkwood has finally come out with a new comm, and all the commercial rewinders will probably be using them. From first reports around the country, it looks like this comm could solve the blown motor problem due to comm failures. At first glance the new comms look identical to the older models but on close inspection you notice the new comm has dark dark brown plastic while the old comm is black plastic. Slight changes have been made in the copper segments so they are imbedded into the plastic more firmly and the new plastic material is a glass filled phenolic type plastic rather than the old asbestos filled type plastic. Previously the asbestos would gather moisture; then the comm would swell and distort out of shape as it became hot while running on the track. Result–blown comm.

This new comm is going to bring about a whole new breed of motors, one of which is the Champion 525 "Thumbprint" motor. This is a successor to their 517. The 525 has quite a few significant changes and improvements over their previous motor.

The 525 uses a .0788" O.D. drill blank that is centerless ground and hardened to about 64 Rockwell C scale and guaranteed straight to .0002" T.I.R. (true indicated run out) over its entire length. Normally a #47 reamer blank is .0783" to .0785" so Champion's shaft has even a closer fit in the bearing. The end result is a good, hard, straight, double ended shaft. Then the 525 has new .013" thick lamination which are made of extremely high quality silicon steel (Armco M-15) which is fully annealled and stamped in a new configuration which has a thicker web to wind wire around (.102") with a concave surface under the crown in order to provide more space for wire. The stack is a little longer (.470" versus .400" on previous motors) and the laminations are covered with rubber-like plastic insulation material about .005" thick which eliminates shorts caused by the wire's insulation being cracked and touching the metal laminations.

I don't know how much heat this red rubber-like insulation will stand but I tested a *blank* armature with this insulation on it and it took 600°F for over an hour in my armature oven without any ill effects. Considering this 600°F is well above the normal working temperature that double Polythermaleze wire is rated for, I would conclude that this red armature insulation is more than adequate to withstand any temperature which might be encountered in a running motor.

The next item on the 525 is the #25 double coated Polythermaleze wire and of course the new glass filled phenolic Kirkwood comm along with a new .025" two piece shim and .004" thick supplementary shims on each side. This new two piece shim not only brings the magnets in closer for the proper air gap but reduced the magnetic flux leakage from around 7 or 8 with the older one piece shim to about two points or less on my magnameter tester. This reduction in flux leakage is significant, especially when you consider that this test was done using the new D Z (double zapped) Arco magnets. These magnets are identified by the red and yellow dots at their ends.

The last improvement on the new 525's is the unmeltable endbell. No, I didn't put unmeltable in quotes because this one *is* unmeltable. Champion claims it will stand 1000°F and by golly it does. I tested it with my 1000°F soldering iron and it refused to melt so I held a gas torch which will melt 1350 degree metal up to the endbell. (I don't know how hot the flame really is) and all it did was slightly "craze" the outside but it still wouldn't melt. This phenolic endbell is made by the transfer molding process which is a combination of heat and tremendous pressure being applied to a phenolic powder rather than an injection molding process where plastic is poured into a mold and allowed to solidify upon cooling. The one unique feature of this endbell is the metal insert molded integrally into the phenolic plastic which prevents it from cracking if the motor "takes a trip over the wall." The endbell is fitted with a Champion bullet-proofing kit which further dissipates the heat from the bearing and heat sinks, which is just so much more frosting on the cake.

To sum up the 525 motor I'd say it was the best motor to come out of Chamblee yet.

While on the subject of Champion's products I might point out a couple of items that look interesting. One new item is the 72 pitch beveled steel spur gears made especially for anglewinders with 52 teeth and matching 9–10–11–12 tooth pinions. Normally the higher the pitch, the closer the gear mesh tolerance becomes, but, these gears are surprisingly easy to set up and mesh does not seem overly critical. These gears are the most expensive on the market ($2.50 for spur gear and 75 cents for pinion) but they are the only ones I know of which are guaranteed not to strip out the teeth. And the price is not out of line, as most true instrument cut gears start about four dollars and go up from



"A scratch built model from an oak stump? It's a modeling first!"

NAMRA World

The December issue of MCS was on the stands just hours, and the phone started to ring. Who is Ginny Encke? Are there more NAMRA members like her? Well, Ginny is a new member, as NAMRA members go. She's been with us for about a year. She likes little cars (1/32, 1/24) and 1:1 Sprites. She's beginning to solder a pretty good chassis, paints and details a body shell so well she now does it for pay at a neighborhood slot shop, and drives very, very, well, given a good car. We hope we have more like her. Our files show about a dozen females around the country, and two overseas.

One other thing, she has a beautiful Sprite to ride in. It belongs to her boyfriend; he's a NAMRA member too. As this is being written, the 1969 Annual NAMRA schedule is in the mail, ditto the first race announcement. The first points race of 1969 will be held at the end of the month, the opener being for 1/24 Sports and GT. The tech committee is waiting to see who will be first up with a car using the new *BIG* tire sizes Goodyear is supposed to have unleashed on the world. Imagine, 18" on the road, 21" across the sidewalls on the rear! It'll be interesting, because they'll have to be under a replica of the car that actually ran them, whatever it was. Yes, we are still holding to the rules. But, if they can prove it, they'll be allowed to run it. Think of it, 3/4" actual, on the track. There are going to have to be some new sidewinder chassis built for these monsters, if they come. The next event will be a 1/24 GP bash and we're sort of looking forward to that.

We were glad to hear that the new national rules prepared in California by USRA, Champion, MODEL CAR SCIENCE, and CAR MODEL, now open the door once again for a GP class, but sorry to hear that, in allowing the class to run sidewinders, they will permit bodywork cut away to allow the motor to show through as well as the gears.

February will see the second running of NAMRA's "500 Invitational." That's the 1/32 Sport and GT event that awards a replica of the silver bowl awarded at the GP of the United States. Imagine, the same $500.00 bowl, and you don't even have to go to Watkins Glen, let alone take the chances Graham Hill does. And this year, the invitational part is in name only. The event now will be open to any and all NAMRA members. Yes, mail-in proxy driven cars will be accepted. But they must be mailed to NAMRA Headquarters two weeks prior to the race, which will be held on Feb. 23.

Next month, the good editor willing, we'll try to cram two race events into these pages. The first one of the season we already mentioned, and the last off-season event that was run a while back. We would have had that one now, but the pictures were lost for a while, and just found.

The new season will once again be sponsored by MCS, with all events NAMRA sanctioned. Looking over last season's race coverage in MCS makes us sort of proud of the cars we run, and the type of races we sanction. We're also happy about the choice of MCS as our official voice. It has been a good relation, and we look forward to the coming years. A few issues back we introduced a new NAMRA section illustrating and describing typical NAMRA chassis designs and construction. We certainly hope some of you find these articles interesting and perhaps helpful. We know the originals run very very well. We hasten to remind you that NAMRA track conditions are usually smooth slick-surfaced layouts that allow those designs in 1/32 to really perform. The chassis articles that will follow showing 1/24 design will be slightly different, in that they should be at home on commercial tracks as well.

Occasionally some items mentioned in the articles will not be available from slot racing centers, like the hard plastic tires mounted on ultra-true set-screw wheels (strictly fronts, of course). You can make your own, if you choose. Having a lathe that's accurate, helps. The man who makes them for us does it on a strictly custom job basis. Quantity is not yet available, and may never be, but we are willing to try and help you get some, if you want. We suggest you send a self addressed envelope requesting information about the wheels and tires you need, to us, and we'll pass it along for you. They may just well be the most perfectly machined part of your car. Prices are high, but worth it. Please, to save time, mark your envelopes, Tires c/o NAMRA, P.O. Box 578, Times Square Station, New York City, N.Y. 10036.

The race for points will soon be on again, as we said, and current National NAMRA Champion Roy Wong will have his hands full this season trying to defend his crown, and attend engineering school as well. We hope it isn't mechanical engineering.

Tech Sheet

there. I know of a set that has run over 47 hours and they are good as new.

It is interesting to note how all these beveled spur gears are cut. There is the same number of teeth all the way around the gear but the outer diameter being smaller than the larger interface diameter, means that each individual tooth must taper as it progresses outward. For instance this 72 pitch gear is about .018" at the large inside and only about .013" at the outside, next to the wheel, or about .005" taper.

Champion also has a new 48 pitch plastic 18° beveled spur gear in 32 to 35 teeth, designed for 7 and 8 tooth pinions. These gears are cheaper (69 cents) and have a strong, light, aluminum hub with the plastic integrally molded over it, which, because of its light weight, will reduce rotational inertia, thus affecting brakes and acceleration.

The final interesting item is the new Champion thrust bearings which fit on the rear axle. These bearings have five ball bearings held in place by a ball retainer and smooth stainless steel washers on each side which are designed to minimize the friction caused by centrifugal force as a car goes through a turn. These bearings will eliminate inplay of the rear axle and will be especially advantageous when beveled spur gears are used on angle-winders where proper gear mesh and gear lash must be held to a minimum.

Now that anglewinder frames seem to be here to stay, I notice other companies are coming out with beveled spur gears. Weldon has an aluminum 64 pitch beveled spur gear. REHCO of Cleveland has a new 48 pitch plastic nylatron type gear. Cobra has a 64 pitch plastic gear at the prototype state. Dynamic, of course, has had a 48 pitch aluminum gear out for some time now and Taylormade of England has a 64 pitch hardened steel gear similar to Champion's 72 pitch steel gear.

The one thing to remember is to get the proper alignment and mesh, regardless of pitch selected. The mesh tolerance for 48 pitch is .008" and 64 pitch is .003," while 72 pitch has only .0003" clearance.

Generally speaking, the higher the pitch the narrower the teeth and the more teeth needed for a gear of the same diameter. For instance, Champion's 72 pitch gear is just under 3/4" in diameter and has 52 teeth, while Dynamic's 33 tooth gear is about the same diameter, but in 48 pitch. Next we must consider that, regardless of pitch, the bore centers between the motor shaft and axle will be *almost* the same for the same overall ratio. For example, a 72 pitch 11 to 52 gives 4.72 to one and 48 pitch 7 to 33 gives 3.71 to one but both have *almost* the same spacing between axle and shaft centers.

It would be possible to obtain different ratios with higher gear pitches, say in 64 pitch or in 72 pitch (if they were available). But in practical terms, I'm not sure if this closer ratio is necessary. After all, a one tooth difference in 48 pitch changes the ratio by about .15 for say a 7–33 to 7–34 and the change from 9–51 to 9–52 is only .11.

A SIDEWINDER IN NAMRA LAND

continued from Page 51

into position as shown. It is suggested you fit both brackets with a long tube, to align it while soldering.

When both sections marked "G" are firmly and squarely soldered onto "B," solder the rear axle tube. The length can then be trimmed to fit flush with the outside of the brackets. In regard to this particular unit, since it was found necessary to keep the rear axle tube as short as possible, no flanged bearings were used. Instead, two of Champion's barrel-type were sweated in and trimmed flush with the ends of the tube. From here on in, it's almost child's play. Cut out a piece of flat brass plate-again, a 1/16" thickness to the size of "C." Mark this piece off for the five holes shown in the drawing, and make sure they are square. Now, place "B" in "A" and cut out of matchbook cover stock, about two inches in strip form about 1/32" wide. Place these strips between A and B as spacers while you drill all your holes. With strips in position, push "B" hard into "A" and clamp down from side. Locate Piece "C" on both "A" and "B" as shown in middle drawing, clamp after located squarely and drill through "C" into both "A" and "B." Drill with a number 50 drill bit since you will be tapping for a 2-56 flat head screw. When all five holes shown in C are drilled, tap all five with a 2-56 tap. Run the same tap through the two holes that were drilled in the same operation in "A." Turn "A" over and countersink both holes till 2-56 flat head screws fit in flush. This is important since this will be the bottom of the chassis and you don't want anything dragging. Use a Number 43 drill to open up the one centered hole in "B." Again, countersink this hole from bottom.

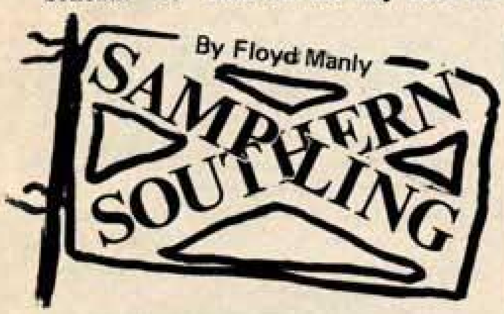
The next piece to prepare is a small rectangle of insulation board a little less than a 1/16" thick, and of the length and width shown in figure "D." This can be found in most model airplane sections of your hobby shop, already cut to the size indicated. Slip "D" into opening of "A" and beneath "C." Push all the way back to rear of opening in "A" and mark for drilling through two front holes in "C." Again, drill and tap these two holes in this section of board and countersink from bottom.

Locate, mark, and drill hole "K," and the two smaller ones on either side to receive a piece of 1/8" thick threaded nylon rod that will be the guide shoe and two screws that will hold folded-over pick up brushes. When this is completed, Solder "E," a length of brass channel, to "C" as shown, and "F," the front axle tube to "E." Again, make sure all is square.

The last bit of cutting and soldering is the 1/16" rod "H" that connects both wings of unit "A" and the four small sections of 1/16" tubing that is soldered in position as shown, "I," for body pin mounts. Assembly is simple. First locate "C" on "A" with two, 2-56 flat head screws, from bottom. Secure with two nuts from top. In the same manner locate piece "D" under "C." Locate "B" under "C" and again use a 2-56 flat head screw up through bottom. Tighten when screw head is flush with bottom of "B," using a single nut threaded down against "C." Since the hole this screw passes through is threaded also, the nut will lock the screw without binding "B" which will then have enough play to bounce around slightly and absorb all the shock and chatter from the rear end. Either buy pre-threaded or thread a piece of 1/8" diameter nylon rod for your guide shoe and fit into the front center hole in "D" marked "K." This hole should be tapped for the rod, and a nut run down over it from the top to lock.

Now locate the softest braid you can, and, using the holes punched in the braid clip, attach one to each hole on either side of "K," lock with nut from top as in other screw assemblies.

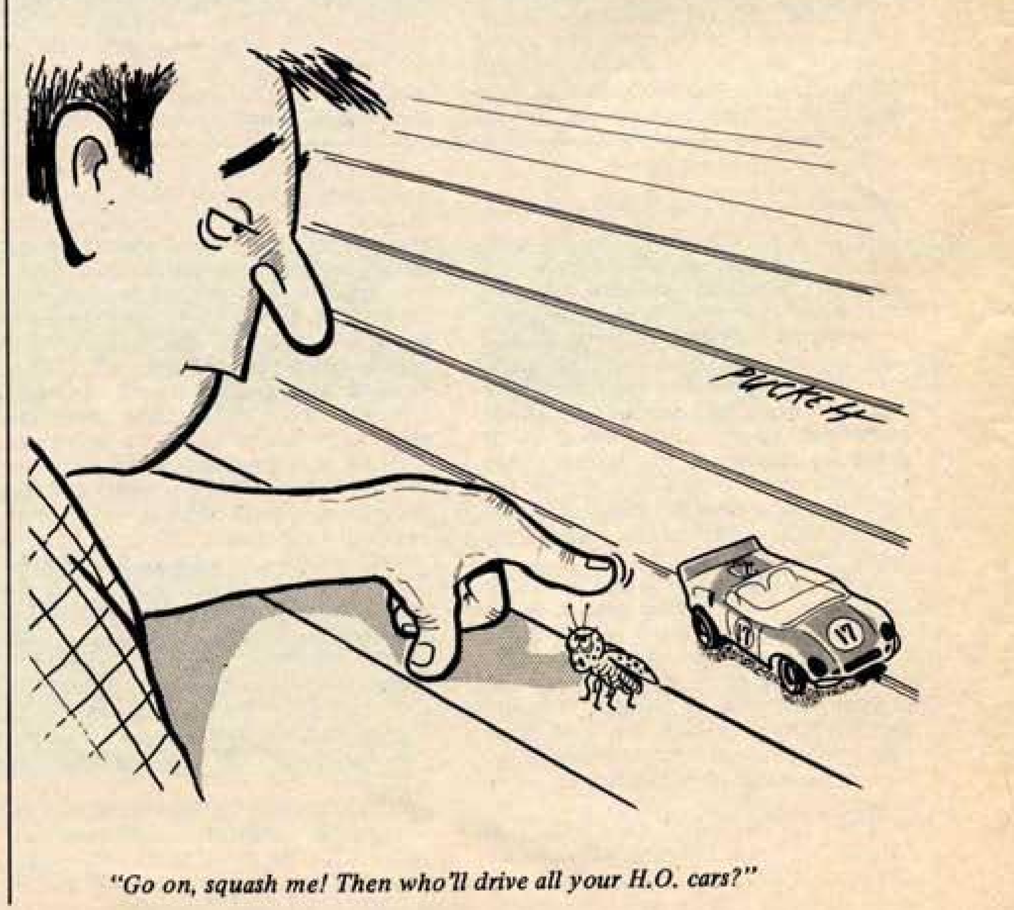
A small piece of thin masking tape over these screw heads mounting the insulation block "D" to "C" will keep braid from shorting. Fix axles, gear, wheels and motor, hook up and get ready to drive one of the best handling cars ever to run around a track. And don't be afraid to tune it to your particular layout, just try one step at a time so you'll know what you're doing.



Hi! After a rest of about eight months, I'm glad to be back. Many things have changed; many things are still the same. The faces at the local track, Aloma Model Raceways in Orlando, Florida, have changed, but the type of kids are the same. Most of the equipment the pros are using has changed too, but the stuff the beginners are running is still about the same.

Morrissey's column on the cost of slot racing "pro-style" in the November issue of MCS would scare even me from getting into the sport. Grand total of $207! Yipes! Mike, why don't you tell them they can still get in and compete for less than $20? They can, you know, not with the pros, but at least with the beginners. The pros are to *watch* and learn from, and that doesn't cost anything.

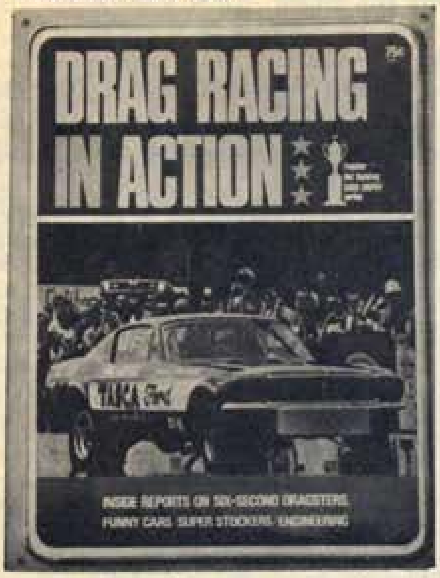
I may be as far off base as a pig on ice, but I'd break down 100 people at the local tracks about like this: There's about 15 guys that come in just to play the pinball or Football machines.



"Go on, squash me! Then who'll drive all your H.O. cars?"

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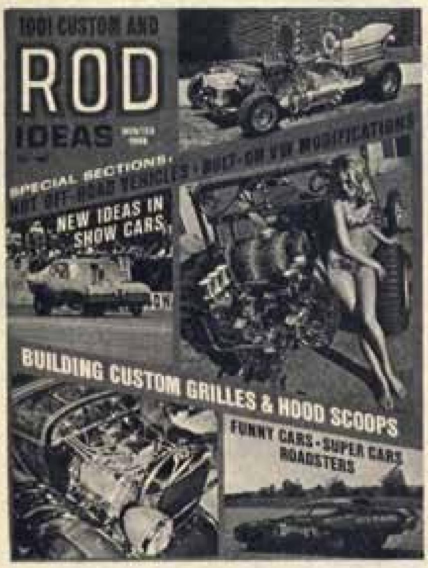
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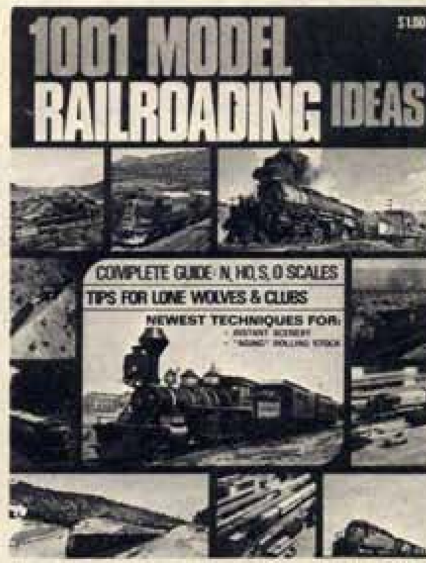
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While the track operators don't like the machines, they admit that this pays the electric bill, and that's the only reason for having them.

We have about 5 serious adults that range from beginners to advance drivers with a total investment of about $100.

Fifteen more guys are intermediates. They're too old to race with the beginners, but not fast enough to win in the advance Friday night races. They race Sunday afternoons and will fill in on Fridays when only a couple advance drivers show up, and there's a chance to luck out. These are the ones we lose from the sport when they turn 16 and their dad lets them use the family car to date girls. Another sport in itself, but we're not here to discuss *that!*

Just watching and wondering what it's all about are five more people. They may get their feet wet and stick around, or they may walk out and not be seen again.

Whipping around the track are about nine drivers who are high speed competitors and have the skill and money to be entries in the races when the "Jet Set" visit. Their equipment is the latest and they're fast, but they don't have that "racer's edge" needed to be in the money circle consistently.

Each track has at least one driver who is PRO material. His equipment is also the latest, but his driving is brilliant! He's the nut that can be seen at the track from dawn to dusk experimenting with new ideas and practicing just for the sheer full of it.

Still with me? So far we've counted 50 people. Who are the other 50? They're the money spenders. They're the beginners. The novice that has just bought an RTR or has been running for about two-three months at the most. Some are running hand-me-downs that they bought from another driver, most are tooling around with RTRs, and a few blasting around with rather rough versions of their own scratch-builts. These are the fans that could care less about scale racing *or* the jet set. They want to run *just for the fun of it.* They pay their money and they get their kicks. Even without regulated contests they'll charge 'round and 'round the track, dicing with anyone that pulls even with them. Let them, and they'll run with just the bare essentials. No bodies, no front wheels, no nothing that isn't needed to make the car go. And they have a ball!

Come Saturday afternoon . . . the race manager imposes *rules.* Front



"If I didn't know you worked in a butcher shop before, I'd know it now!"

wheels, bodies, etc. Rules are set up to satisfy the majority. When the attendance drops off, the rules are loosened up to allow more qualifiers. Just think for a moment, you pro-minded "authorities," how many entries would you have for a beginners race if you stuck to strict U.S.R.A., CAR MODEL, ARCO or NAMRA rules? Think back to when *you* were brand-spanky new to the sport. Could you have built a car that would qualify under the present standards? Could you have afforded it? Of course not! You set up rules that would please the majority and still weed some of the slop out, then periodically you added extra rules until you run under the too-strict-for-beginners sets that we have today. For intra-track meets, a copy of the applicable rules are always mailed with the invitations. The people that want to race under those particulars will show up. When Champion sent a team to run in the CAR MODEL series of races they ran under the CAR MODEL rules. When they sponsor an ARCO race, everybody abides by the Champion rules.

Rules are rules, and that ends this tirade on all the nonsense being stirred up lately, except to say again that rules are rules and if you don't like the ones at your track, argue to have them changed *before* the race. Not when you're two laps ahead and get caught with an infraction. Sport cars, hard shell stockers or thingies, let's run and everybody have fun!

We gotta have the commercial tracks that will cater to the beginners. One thing for sure, the race products are getting better all the time. The big-money toy makers are almost out of the game. The profit margin is just too small but we're being well supplied with good goodies from slot racing specialty houses like Champion, Riggens, Checkpoint, Mura, etc. A few of the wiser big houses set up slot departments and they're still with us, like Cox, MRC, Dynamic, etc. This could lead me into about 500 words on all the fine things available but we'll save that for next month, except to mention Riggens' new tires called "FATSOS," for $1.39 and the black anodized "PREMIUMS," and their new BEACH BUGGY convertible. UMM–UMM! All as pretty as chromed 4-barrels on a "428." And Champion's sidewinder chassis that's right out of Cozine's race kit. Everything out of Bob's box is the best available.

Ask me some questions. I'll supply the best possible answers. Just a post card will do. You'll be doing me a favor too. Drop a line to: FLOYD MANLY, 5112 LAKE HOWELL RD., WINTER PARK, FLORIDA 32789.



"Vot happens to your Englander car now, should be . . . veddy interesting!"

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